

Standard Tool Co.'s



WIST DRILLS,
REAMERS, TAPS,
SPRING GOTTERS,
FLAT AND
RIVETED KEYS.



Montgomery & Co.,

Importers and
Jobbers

Tools, Supplies and Machinery.

105 Fulton St.,

NEW YORK.

Notice.

This Catalogue cancels all previous editions.

In ordering, please give the number of the list of goods wanted.

When ordering tools of different dimensions from those listed herein,
it is preferable to send a sketch plainly marked with the order.

All our tools are carefully inspected after every operation. Any imperfect tools, if returned to us, will be replaced free of charge.

We carry in stock a large and complete line of finished goods for prompt shipment, and are well equipped to turn out special work promptly.

Respectfully,

The Standard Tool Co.

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BLACK WALNUT CASE FOR DRILLS.



Case No. 1 will Hold Drills as below :

Taper Shank Drills, 1-4 to 1 1-4 by 32ds.

Jobbers' Straight Shank Drills, 1-16 to 1-2 by 64ths.

Bit Stock Drills, 1-16 to 1-2 by 32ds.

Wire Gauge Drills, from No. 1 to No. 65.

Jewelers' Drills, Chucks and Sockets.

Price of Case :

Boxed for ShippingNet, \$25 00

Case No. 2 will Hold Drills as below :

Drills, Steel Wire Gauge, from No. 1 to No. 65.

Jobbers' Straight Shank Drills, 1-16 to 1-2 inch by 64ths.

Taper Shank Drills, 1-4 to 3-4 inch, varying by 32ds.

Taper Shank Drills, 13-16 to 1 1-4 inch, varying by 16ths.

Jewelers' Drills, Chucks and Sockets.

Price of Case :

Boxed for ShippingNet, \$14 50

Scrap Stubs' Steel Wire, unassorted, No. 1 to No. 50.....Net, per lb., 20

STRAIGHT LIP INCREASE TWIST DRILLS.

— WITH —

MORSE TAPER SHANKS, STRAIGHT SHANKS AND SQUARE SHANKS.

Drills of any size or length, not regular, made to order to fit any socket desired.

Grinding line is only applied to drills 3-8 inch diameter and larger. Parties ordering will please state whether they wish grinding line or not. Orders filled without unless specified.

For very exact work, a gauge plainly marked should accompany an order.

PRICES OF DRILLS PER SET:

No. 1.	Set of Taper Shank Drills, 1-4 to 1 inch, varying by 16ths.....	\$20 00
No. 2.	Set of Taper Shank Drills, 3-8 to 1 1-4 inch, varying by 16ths.....	34 50
No. 3.	Set of Taper Shank Drills, 3-8 to 3-4 inch, by 32ds, 3-4 to 1 1-4 inch by 16ths...	42 00
No. 4.	Set of Taper Shank Drills, 3-8 to 3-4 in. by 32ds, 13-16 to 1 1-2 in. by 16ths, \$64 00	131 00
	1 9-16 to 2 inch, by 16ths.....	
No. 5.	Set Drills, Straight Shanks, 1-16 to 1-2 inch, by 64ths, mounted.....	10 00
No. 6.	Set Drills, Straight Shanks, 1-16 to 1-2 inch, by 32ds, mounted.....	5 40
No. 7.	Set Drills, from 60 to 3-8 inch, mounted, (see page 6).....	9 90
No. 8.	Set Drills, Steel Wire Gauge, from No. 1 to 60, mounted.....	8 10
No. 9.	Half Set Drills, alternate Nos. from 1 to 50, mounted.....	4 30
No. 10.	Jewelers Set of 36 Drills, No. 30 (1-8 inch) to No. 65, Steel Wire Gauge, mounted,	4 25
	in a Mahogany Case with Cap.....	
No. 11.	Set of Taper Shank Drills, 3-8 to 1 1-2 inch, by 32ds.....	105 00
No. 12.	Set Machine Bits, 1-8 to 1-2 inch, mounted, varying by 32ds.....	7 00
No. 13.	Set Bit Stock Drills, 1-16 to 1-4 inch, by 32ds, 1-4 to 3-8 inch, by 16ths, boxed...	2 60

JEWELERS' SET OF DRILLS.

No. 30 TO 65 STUBS' WIRE GAUGE IN MAHOGANY CASE.



Price..... \$1 25

STRAIGHT LIP INCREASE TWIST DRILLS,

— WITH —

MORSE TAPER OR STRAIGHT SHANKS, TAPER LENGTH.



No. 104.

Socket for American Taper.	Diameter.	Price Each.	Length in Inches.	Socket for Standard or Morse Taper.	Socket for American Taper.	Diameter.	Price Each.	Length in Inches.	Socket for Standard or Morse Taper.
No. 1, \$1.30	1-1 "	\$0 60	6 1-8	No. 1, \$1.20.	No. 2, \$2.50.				No. 3, \$2.50.
	17-64	65	6 1-4						
	9-32	65	6 1-4						
	19-64	70	6 3-8			59-64"	\$2 75	10 3-4	
	5-16	70	6 3-8			15-16	2 75	10 3-4	
	21-64	75	6 1-2			61-64	2 90	10 7-8	
	11-32	75	6 1-2			31-32	2 90	10 7-8	
	23-64	80	6 3-4			63-64	3 00	11	
	3-8	80	6 3-4			1	3 00	11	
	25-64	85	7			1 1-64	3 20	11 1-8	
	13-32	85	7			1 1-32	3 20	11 1-8	
	27-64	90	7 1-4			1 3-64	3 40	11 1-4	
	7-16	90	7 1-4			1 1-16	3 40	11 1-4	
	29-64	95	7 1-2			1 5-64	3 60	11 1-2	
No. 2, \$1.55.	15-32	95	7 1-2	No. 2, \$1.80.	Standard, Morse and American Taper above the same.	1 3-32	3 60	11 1-2	No. 4, 4.00.
	31-64	1 00	7 3-4			1 7-64	3 80	11 3-4	
	1-2	1 00	7 3-4			1 1-8	3 80	11 3-4	
	33-64	1 10	8			1 9-64	4 00	11 7-8	
	17-32	1 10	8			1 5-32	4 00	11 7-8	
	35-64	1 20	8 1-4			1 11-64	4 20	12	
	9-16	1 20	8 1-4			1 3-16	4 20	12	
	37-64	1 30	8 1-2			1 13-64	4 40	12 1-8	
	19-32	1 30	8 1-2			1 7-32	4 40	12 1-8	
						1 15-64	4 50	12 1-2	
No. 3, \$2.00.	39-64	1 40	8 3-4	No. 3, \$1.80.	Standard, Morse and American Taper above the same.	1 1-4	4 50	12 1-2	No. 4, 4.00.
	5-8	1 40	8 3-4			1 17-64	4 65	14 1-8	
	41-64	1 50	9			1 9-32	4 65	14 1-8	
	21-32	1 50	9			1 19-64	4 80	14 1-4	
	43-64	1 60	9 1-4			1 5-16	4 80	14 1-4	
	11-16	1 60	9 1-4			1 21-64	5 00	14 3-8	
	45-64	1 70	9 1-2			1 11-32	5 00	14 3-8	
	23-32	1 70	9 1-2			1 23-64	5 20	14 1-2	
	47-64	1 85	9 3-4			1 3-8	5 20	14 1-2	
	3-4	1 85	9 3-4			1 25-64	5 40	14 5-8	
	49-64	2 00	9 7-8			1 13-32	5 40	14 5-8	
	25-32	2 00	9 7-8			1 27-64	5 60	14 3-4	
	51-64	2 15	10			1 7-16	5 60	14 3-4	
	13-16	2 15	10			1 29-64	5 80	14 7-8	
	53-64	2 30	10 1-4			1 15-32	5 80	14 7-8	
	27-32	2 30	10 1-4			1 31-64	6 00	15	
	55-64	2 45	10 1-2			1 1-2	6 00	15	
	7-8	2 45	10 1-2						
	57-64	2 60	10 5-8						
	29-32	2 60	10 5-8						

Standard and Morse Taper, the same.

STRAIGHT LIP INCREASE TWIST DRILLS.

WITH

MORSE TAPER OR STRAIGHT SHANKS. TAPER LENGTH.



No. 104 CONTINUED.

Socket for American Taper.	Diameter.	Price Each.	Length in Inches.	Socket for Morse Taper.	Socket for American Taper.	Diameter.	Price Each.	Length in Inches.	Socket for Morse Taper.
Shanks of Morse and American Taper Drills 1 1/2 to 2 inches are same size.	1 1/2-32"	\$6 30	15 1-8	No. 4, \$4.00.	Shanks of Morse and American Taper Drills 1 1/2 to 2 inches are same size.	2 1/2-32"	10 20	16 1-2	No. 5, \$7.50.
	1 9-16	6 60	15 1-4			2 1-16	10 60	17	
	1 10-32	6 90	15 3-8			2 1-8	11 20	17	
	1 5-8	7 20	15 1-2			2 3-16	12 00	17	
	1 21-32	7 50	15 5-8			2 1-4	12 80	17 1-2	
	1 11-16	7 80	15 3-4			2 5-16	13 60	17 1-2	
	1 23-32	8 10	15 7-8			2 3-8	14 40	18	
	1 3-4	8 40	16			2 7-16	15 00	18 1-2	
	1 25-32	8 60	16 1-8			2 1-2	15 60	19	
	1 13-16	8 80	16 1-4			2 9-16	16 20	19 1-4	
	1 27-32	9 00	16 3-8			2 5-8	16 80	19 1-2	
	1 7-8	9 20	16 1-2			2 11-16	17 60	20	
	1 29-32	9 35	16 1-2			2 3-4	19 00	20 1-2	
	1 15-16	9 50	16 1-2			2 13-16	20 00	20 1-2	
1 31-32	9 65	16 1-2			2 7-8	21 00	21		
2	9 80	16 1-2			2 15-16	23 00	21		
					3	25 00	22		

TAPER SQUARE SHANK DRILLS,
FITTING RATCHETS.

No. 104 A.

Shanks 5-8 in by 3-8 in., and 1 1-2 in. long; and Shanks 3-4 in. by 1-2 in., and 1 3-4 in. long.

Diameter.	Price Each.	Length in Inches.	Diameter.	Price Each.	Length in Inches.	Diameter.	Price Each.	Length in Inches.
1-4 "	\$1.00	5	11-16"	\$1.45	61-2	11-8 "	\$3.10	9
9-32	1 05	5	23-32	1.50	61-2	15-2	3.25	9
5-16	1 10	5	3-4	1.55	61-2	13-16	3.40	9
11-32	1.15	5	25-32	1.65	61-2	17-32	3.55	9
3-8	1 20	6	13-16	1.75	7	11-4	3.75	9 1-2
13-32	1 25	6 1-4	27-32	1.80	7	19-32	3.95	9 1-2
7-16	1.25	6 1-4	7-8	2.05	7 1-2	15-16	4.20	9 1-2
15-32	1.30	6 1-4	29-32	2.15	7 1-2	111-32	4.45	9 1-2
1-2	1.30	61-2	15-16	2.30	8	13-8	4.70	10
17-32	1 35	61-2	31-32	2.45	8	113-32	4.95	10
9-16	1 35	61-2	1	2.55	8 1-2	17-16	5.25	10
19-32	1.40	61-2	1 1-32	2.70	8 1-2	115-32	5.50	10
5-8	1.40	61-2	1 1-16	2.85	8 1-2	11-2	5.75	10
21-32	1.45	61-2	1 3-32	3.00	8 1-2			

STRAIGHT SHANK DRILLS.



NO. 105

NO. 106.

JOBBER'S AND MACHINISTS' SETS.

Diameter.	Price per Dozen.	Price Each.	Length in Inches.
1-16"	\$1 00	09	2 1-2
6-64	1 10	10	2 5-8
3-32	1 20	11	2 3-4
7-64	1 30	12	2 7-8
1-8	1 45	13	3
9-64	1 60	15	3 1-8
5-32	1 80	16	3 1-4
11-64	2 00	18	3 3-8
3-16	2 20	20	3 1-2
13-64	2 40	21	3 5-8
7-32	2 65	23	3 3-4
15-64	2 90	26	3 7-8
1-4	3 15	28	4
17-64	3 40	30	4 1-8
9-32	3 65	32	4 1-4
19-64	3 90	35	4 3-8
5-16	4 20	37	4 1-2
21-64	4 50	40	4 5-8
11-32	4 80	42	4 3-4
23-64	5 10	45	4 7-8
3-8	5 40	48	5
25-64	5 70	50	5 1-8
13-32	6 00	53	5 1-4
27-64	6 40	55	5 3-8
7-16	6 80	59	5 1-2
29-64	7 20	63	5 5-8
15-32	7 50	65	5 3-4
31-64	7 75	67	5 7-8
1-2	8 00	70	6

LETTER SIZES.

Diameter.	Decimals of Inch.	Price per Dozen.	Price Each	Length in Inches.
A	.234	\$2 90	\$0 26	3 13-16
B	.238	3 00	27	3 13-16
C	.242	3 10	28	3 13-16
D	.246	3 20	29	3 13-16
E	.250	3 30	30	3 13-16
F	.257	3 40	30	4 1-4
G	.261	3 50	31	4 1-4
H	.266	3 60	32	4 1-4
I	.272	3 70	33	4 1-4
J	.277	3 80	34	4 1-4
K	.281	3 90	35	4 1-4
L	.290	4 00	36	4 1-4
M	.295	4 10	36	4 1-4
N	.302	4 20	37	4 1-4
O	.316	4 30	38	4 1-4
P	.323	4 40	39	4 5-8
Q	.332	4 60	40	4 3-4
R	.339	4 80	42	4 3-4
S	.348	5 00	44	4 7-8
T	.358	5 20	45	4 7-8
U	.368	5 40	47	5
V	.377	5 60	49	5
W	.386	5 80	51	5 1-8
X	.397	6 00	53	5 1-4
Y	.404	6 40	55	5 1-4
Z	.413	6 80	59	5 3-8

For very exact work, a gauge plainly marked should accompany an order.

STUBS' STEEL WIRE GAUGE.

NO. 107.

For size of number in decimals of an inch, see page 18.

Numbers by Gauge.	Price per Dozen.	Price Each.	Length in Inches.	Numbers by Gauge.	Price per Dozen.	Price Each.	Length in Inches.
1 to 5	\$2 35	\$0 22	4	31 to 35	\$1 40	\$0 14	25-8
6 " 10	2 25	21	3 11-16	36 " 40	1 25	12	27-16
11 " 15	2 10	20	3 1-2	41 " 45	1 10	10	31-4
16 " 20	1 95	19	3 1-4	46 " 60	95	09	21-16-13-4
21 " 25	1 75	17	3 1-16	61 " 70	90	08	11-2
26 " 30	1 55	15	2 13-16	71 " 80	1 00	09	15-16-3-4

MILLIMETER SIZES, TAPER SHANK DRILLS.



No. 107 A.

Size in Millimeters	Diameter in Thousandths.	Price Each.	Length in Inches.	No. of Sockets.	Size in Millimeters	Diameter in Thousandths.	Price Each.	Length in Inches.	No. of Sockets.
6	.236	\$0 60	6 1-8	No. 1, \$1.20.	21	.866	\$2 45	10 1-2	No. 2, \$1.80.
6 1-2	.256	65	6 1-8		22 1-2	.886	2 50	10 1-2	
7	.275	65	6 1-4		23	.905	2 60	10 5-8	
7 1-2	.295	70	6 1-4		23 1-2	.925	2 75	10 5-8	
8	.314	70	6 3-8		24	.944	2 90	10 7-8	
8 1-2	.334	80	6 3-8		24 1-2	.964	2 95	10 7-8	
9	.354	80	6 3-4		25	.984	3 00	11	
9 1-2	.374	85	6 3-4		26	1.023	3 20	11 1-8	
10	.393	85	7		27	1.062	3 40	11 1-4	
10 1-2	.413	90	7		28	1.101	3 80	11 3-4	
11	.433	90	7 1-4		29	1.141	4 00	11 7-8	
11 1-2	.453	95	7 1-4		30	1.181	4 20	12	
12	.472	95	7 1-2		31	1.220	4 40	12 1-8	
12 1-2	.492	1 05	7 3-4		32	1.260	4 65	14 1-8	
13	.511	1 10	8		33	1.300	4 80	14 1-4	
13 1-2	.531	1 15	8		34	1.338	5 00	14 3-8	
14	.551	1 20	8 1-4		35	1.377	5 20	14 1-2	
14 1-2	.571	1 25	8 1-4		36	1.417	5 60	14 3-4	
15	.590	1 30	8 1-2	No. 2, \$1.80.	37	1.456	5 80	14 7-8	No. 4, \$4.00.
15 1-2	.610	1 35	8 1-2		38	1.495	6 00	15	
16	.620	1 40	8 3-4		39	1.535	7 45	15 1-8	
16 1-2	.650	1 50	8 3-4		40	1.574	7 80	15 3-8	
17	.669	1 60	9 1-4		41	1.614	8 05	15 1-2	
17 1-2	.689	1 65	9 1-4		42	1.653	8 30	15 5-8	
18	.708	1 70	9 1-2		43	1.692	8 65	15 3-4	
18 1-2	.728	1 80	9 1-2		44	1.732	8 80	16	
19	.748	1 85	9 3-4		45	1.771	9 05	16 1-8	
19 1-2	.768	2 00	9 3-4		46	1.811	9 30	16 1-8	
20	.787	2 15	10		47	1.851	9 60	16 1-2	
20 1-2	.807	2 25	10		48	1.890	9 90	16 1-2	
21	.826	2 30	10 1-4		49	1.930	10 15	16 1-2	
21 1-2	.846	2 40	10 1-4		50	1.969	10 50	16 1-2	

BIT STOCK DRILLS. FOR METAL OR WOOD.



No. 108.

Diameter.	Price per Dozen.	Price Each.	Diameter.	Price per Dozen.	Price Each.
2-32 "	\$1 50	\$0 14	14-32 "	\$8 80	\$0 75
3-32	1 65	16	15-32	9 60	82
4-42	2 10	20	16-32	10 30	87
5-32	2 60	24	17-32	11 00	92
6-32	3 10	29	9-16	14 35	1 20
7-32	3 60	33	5-8	16 15	1 35
8-32	4 10	38	11-16	17 95	1 50
9-32	4 70	43	3-4	19 75	1 65
10-32	5 40	48	13-16	21 55	1 80
11-32	6 30	54	7-8	23 35	1 95
12-32	7 20	62	15-16	25 75	2 15
13-32	8 00	68	1	28 15	2 35

Our Bit Stock Drills will fit any brace in the market, and will drill Steel, Iron or other Metals as well as Wood. They are not injured by contact with screws or nails and will bore straight any kind of Wood without splitting it. All sizes $\frac{1}{2}$ and larger made with solid shanks.

Price per set, 2-32 to 8-32 by 32ds, 10-32 to 12-32 by 16ths, boxed.....\$2 60

STRAIGHT SHANK CENTER DRILLS.



No. 108 A.

Diameter.	Length in Inches.	Price per Dozen.	Diameter	Length in Inches.	Price per Dozen.
1-16 "	1	\$0 80	9-64 "	1 1-4	\$1 35
5-64	1	90	5-32	1 1-2	1 50
3-32	1 1-4	1 10	11-64	1 1-2	1 70
1-8	1 1-4	1 25	3-16	1 1-2	1 90

Made to order in any size of Stubs' Wire Gauge.

CENTER REAMERS.



STYLE A.



STYLE B.

Size Cut.	STYLE A.		STYLE B.	
	Each.	Dozen.	Each.	Dozen.
1-4 "	\$0 22	\$2 50	\$0 25	\$2 90
C-8	25	2 90	30	3 25
1-2	30	3 25	35	3 75
3-4	70	8 00	75	8 50

STRAIGHT SHANK MACHINE BITS.**FOR WOOD.****No. 109.**

Diameter.	Price Each.	Length in Inches.	Diameter.	Price Each.	Length in Inches.
1-8 "	\$0 20	3	15-32 "	\$0 80	5 3-4
5-32	25	3 1-4	1-2	85	6
3-16	30	3 1-2	17-32	95	6 1-8
7-32	35	3 3-4	9-16	1 00	6 1-4
1-4	40	4	5-8	1 15	6 1-2
9-32	45	4 1-4	11-16	1 35	7
5-16	50	4 1-2	3-4	1 65	7 1-2
11-32	55	4 3-4	13-16	1 95	8
3-8	65	5	7-8	2 30	8 1-2
13-32	70	5 1-4	15-16	2 65	9
7-16	75	5 3-2	1	3 00	9 1-2

Price per Set, with Bit Point, 1-8 inch to 1-2 inch, mounted, varying by 32ds.....\$7 00

WOOD BORING BRACE DRILLS.**No. 109 A.**

No.	Per Doz.	Each.	No.	Per Doz.	Each.	No.	Per Doz.	Each.
2	\$1 60	\$0 15	9	\$3 50	\$0 30	16	\$5 00	\$0 45
3	1 60	15	10	3 50	30	17	5 50	50
4	1 60	15	11	4 00	35	18	5 50	50
5	1 75	18	12	4 00	35	20	6 00	55
6	2 00	20	13	4 50	40	22	6 50	55
7	2 50	22	14	4 50	40	24	7 00	60
8	3 00	25	15	5 00	45			

BIT STOCK COUNTERSINK.**No. 109 B.**

Diameter	Price.	Length in Inches.	Diameter.	Price.	Length in Inches.
3-8 "	\$0 50	4 1-4	3-4 "	\$0 90	5
1-2	60	4 1-4	7-8	1 05	5
5-8	75	4 1-4	1	1 20	5



EXTRA LENGTH WOOD BORING BRACE DRILLS.



No. 109 C.

For Bell Hangers, Telephone and Telegraph Work.

These Drills will go through plastering, nails and even brick walls, and can be sharpened when dull.

No.	12 INCH.		15 INCH.		24 INCH.		30 INCH.		36 INCH.	
	Per Doz.	Each	Per Doz.	Each	Per Doz.	Each	Per Doz.	Each	Per Doz.	Each
6	\$5 00	\$0 50	\$7 00	\$0 70	\$9 00	\$0 90	\$11 00	\$1 10	\$13 00	\$1 30
8	5 00	50	7 00	70	9 00	90	11 00	1 10	13 00	1 30
10	5 50	55	7 50	75	9 50	95	12 00	1 20	13 00	1 30
12	6 00	60	8 00	80	10 00	1 00	12 00	1 20	13 00	1 30
14	7 00	70	9 00	90	11 00	1 10	13 00	1 30	14 00	1 40
16	8 00	80	10 00	1 00	12 00	1 20	14 00	1 40	15 00	1 50
18	9 00	90	11 00	1 10	13 00	1 30	15 00	1 50	16 00	1 60
20	10 00	1 00	12 00	1 20	14 00	1 40	15 00	1 50	16 00	1 60
22	11 00	1 10	13 00	1 30	15 00	1 50	16 00	1 60	17 00	1 70
24	12 00	1 20	14 00	1 40	16 00	1 60	17 00	1 70	18 00	1 80
26	13 00	1 30	15 00	1 50	17 00	1 70	18 00	1 80	18 00	1 80
28	14 00	1 40	16 00	1 60	18 00	1 80	19 00	1 90	19 00	1 90
30	15 00	1 50	17 00	1 70	19 00	1 90	20 00	2 00	20 00	2 00
32	16 00	1 60	18 00	1 80	20 00	2 00	20 00	2 00	20 00	2 00

SCREW DRIVER BITS.

P.S. STUBS. STEEL HAND FORGED.



Plain, assorted, one dozen in a box..... Price per dozen, \$2 00

COOPERS' DOWEL DRILLS.



Sizes, 5-16 or 21-64..... Price per dozen, \$3 00

SPOON BITS.



All sizes made to order promptly.

MACHINE BITS FOR WOOD.

TAPER LENGTHS, FITTING THE PRENTICE BLACKSMITHS' DRILL PRESSES NOS. 1 AND 2.



NO. 109 D.

Diameter.	Price Each.	Length in inches.	Diameter.	Price Each.	Length in inches.
1-8 "	\$0 50	5 1-8	10-32 "	\$1 50	8 1-2
5-32	50	5 3-8	5-8	1 00	8 3-4
3-16	60	5 5-8	21-32	1 70	9
7-32	60	5 7-8	11-16	1 80	9 1-4
1-4	70	6 1-8	23-32	1 90	9 1-2
9-32	75	6 1-4	3-4	2 00	9 3-4
5-16	80	6 3-8	25-32	2 20	9 7-8
11-32	85	6 1-2	13-16	2 40	10
3-8	90	6 3-4	27-32	2 50	10 1-4
13-32	95	7	7-8	2 60	10 1-2
7-16	1 00	7 1-4	29-32	2 80	10 5-8
15-32	1 10	7 1-2	15-16	3 00	10 3-4
1-2	1 20	7 3-4	31-32	3 20	10 7-8
17-32	1 30	8	1	3 40	11
9-16	1 40	8 1-4			

The above Drills have Shanks 2 1-2 in. long, and 1-2 in. diameter.

Diameter of Shanks fitting Presses Nos. 1 and 2, 1-2 inch.

MACHINE BITS FOR WOOD,

WITH

MORSE TAPER SHANKS.



NO. 109 E.

Diameter	Price Each.	Length in inches.	No of Socket for Morse Taper.	Diameter.	Price Each.	Length in inches.	No. of Socket for Morse Taper.
1-8 "	\$0 50	4 9-16	No. 1, \$1.30.	15-32 "	\$1 10	7 1-2	No. 1, No. 2, \$1.30, \$1.50.
5-32	50	4 13-16		1-2	1 20	7 3-4	
3-16	60	5 1-16		17-32	1 30	8	
7-32	60	5 5-16		9-16	1 40	8 1-4	
1-4	70	6 1-8		19-32	1 50	8 1-2	
9-32	75	6 1-4		5-8	1 60	8 3-4	
5-16	80	6 3-8		21-32	1 70	9	
11-32	85	6 1-2		11-16	1 80	9 1-4	
3-8	90	6 3-4		23-32	1 90	9 1-2	
13-32	95	7		3-4	2 00	9 3-4	
7-16	1 00	7 1-4					

DRILLS FITTING COE'S AND No. 3 AND 4 BOYNTON PLUMMER BLACKSMITHS' DRILL PRESSES.

With Shanks 41-64 inch Diameter.



No. 110.

Diameter	Price Each.	Length in inches.	Diameter.	Price Each	Length in inches.
1-8 "	\$0 55	4 7-8	27-32 "	\$1 40	6
5-32	58	5 5-8	7-8	1 45	6
3-16	60	6	29-32	1 55	6
7-32	65	6	15-16	1 60	6
1-4	70	6	31-32	1 70	6
9-32	73	6	1	1 80	6
5-16	75	6	1 1-32	1 90	6
11-32	80	6	1 1-16	2 00	6
3-8	85	6	1 3-32	2 10	6
13-32	88	6	1 1-8	2 20	6
7-16	90	6	1 5-32	2 25	6
15-32	93	6	1 3-16	2 30	6
1-2	95	6	1 7-32	2 35	6
17-32	98	6	1 1-4	2 40	6
9-16	1 00	6	1 9-32	2 50	6
19-32	1 03	6	1 5-16	2 60	6
5-8	1 05	6	1 11-32	2 70	6
21-32	1 10	6	1 3-8	2 80	6
11-16	1 15	6	1 13-32	2 90	6
23-32	1 20	6	1 7-16	3 00	6
3-4	1 25	6	1 15-32	3 10	6
25-32	1 30	6	1 1-2	3 20	6
13-16	1 35	6			

The above Drills have Shanks 2 1-4 inch long and about 41-64 inch diameter.

**TAPER LENGTH DRILLS, WITH 1-2 INCH SHANKS FOR
BLACKSMITHS' DRILL PRESSES.**



No. 111.

Diameter.	Price Each.	Length in inches.	Diameter.	Price Each.	Length in inches.
1-8 "	\$0 45	5 1-8	11-16 "	\$1 60	9 1-4
5-32	45	5 3-8	23-32	1 70	9 1-2
3-16	50	5 5-8	3-4	1 85	9 3-4
7-32	55	5 7-8	25-32	2 00	9 7-8
1-4	60	6 1-8	13-16	2 15	10
9-32	65	6 1-4	27-32	2 30	10 1-4
5-16	70	6 3-8	7-8	2 45	10 1-2
11-32	75	6 1-2	29-32	2 60	10 5-8
3-8	80	6 3-4	15-16	2 75	10 3-4
13-32	85	7	31-32	2 90	10 7-8
7-16	90	7 1-4	1	3 00	11
15-32	95	7 1-2	1 1-32	3 20	11 1-8
1-2	1 00	7 3-4	1 1-16	3 40	11 1-4
17-32	1 10	8	1 3-32	3 60	11 1-2
9-16	1 20	8 1-4	1 1-8	3 80	11 3-4
19-32	1 30	8 1-2	1 5-32	4 00	11 7-8
5-8	1 40	8 3-4	1 3-16	4 20	12
21-32	1 50	9	1 1-4	4 50	12 1-2

We furnish the above by 64ths, if ordered.

**DRILLS WITH 1-4 INCH SHANKS FOR BLACKSMITHS'
DRILL PRESS No. 0.**

No. 111 A.

Diameter.	Price Each.	Length in inches.	Diameter.	Price Each.	Length in inches.
1-16 "	\$0 25	2 5-8	5-16 "	\$0 45	4 1-2
3-32	30	2 15-16	11-32	50	4 3-4
1-8	30	3 1-16	3-8	55	5
5-32	35	3 3-8	13-32	60	5 1-4
8-16	35	3 1-2	7-16	60	5 1-2
7-32	40	3 3-4	15-32	70	5 3-4
1-4	40	4	1-2	70	6
9-32	40	4 1-4			

The above Drills have Shanks 1 1-4 inch long and 1-4 inch diameter.

DRILLS FITTING BOYNTON & PLUMMER AND SILVER & DEMING BLACKSMITHS' DRILL PRESSES.

Nos. 1 and 2 with Shanks 1-2 inch diameter.

SHORT LENGTHS



No. 112.

Diameter.	Price Each.	Length in inches.	Diameter	Price Each.	Length in inches.
1-8 "	\$0 45	4 7-8	27-32 "	\$1 40	6
5-32	48	4 7-8	7-8	1 45	6
3-16	50	5 5-8	29-32	1 50	6
7-32	55	5 5-8	15-16	1 60	6
1-4	60	6	31-32	1 70	6
9-32	65	6	1	1 80	6
5-16	70	6	1 1-32	1 90	6
11-32	73	6	1 1-16	2 00	6
3-8	75	6	1 3-32	2 10	6
13-32	78	6	1 1-8	2 20	6
7-16	80	6	1 5-32	2 25	6
15-32	83	6	1 3-16	2 30	6
1-2	85	6	1 7-32	2 35	6
17-32	88	6	1 1-4	2 40	6
9-16	90	6	1 9-32	2 50	6
19-32	95	6	1 5-16	2 60	6
5-8	1 05	6	1 11-32	2 70	6
21-32	1 10	6	1 3-8	2 80	6
11-16	1 15	6	1 13-32	2 90	6
23-32	1 20	6	1 7-16	3 00	6
3-4	1 25	6	1 15-32	3 10	6
25-32	1 30	6	1 1-2	3 20	6
13-16	1 35	6			

The above Drills have Shanks 2 1-4 inches long, and 1-2 inch diameter.

STRAIGHT FLUTED STRAIGHT SHANK DRILLS.



No. 113.

Diameter	Price per Doz.	Price Each	Length in Inches.	Diameter.	Price per Doz.	Price Each	Length in Inches.
1-16"	\$1.00	\$0.09	2 1-2	13-64"	\$3 90	\$0.35	4 3-8
5-64	1.10	10	2 5-8	5-10	4 20	37	4 1-2
3-32	1.20	11	2 3-4	21-64	4 50	40	4 5-8
7-64	1.30	12	2 7-8	11-32	4 80	42	4 3-4
1-8	1.45	13	3	23-64	5 10	45	4 7-8
9-64	1.60	15	3 1-8	3-8	5 40	48	5
5-32	1.80	16	3 1-4	25-64	5 70	50	5 1-8
11-64	2.00	18	3 3-8	13-32	6 00	53	5 1-4
3-16	2.20	20	3 1-2	27-64	6 40	55	5 3-8
13-64	2.40	21	3 5-8	7-16	6 80	59	5 1-2
7-32	2.65	23	3 3-4	29-64	7 20	63	5 5-8
15-64	2.90	26	3 7-8	15-32	7 50	65	5 3-4
1-4	3.15	28	4	31-64	7 75	67	5 7-8
17-64	3.40	30	4 1-8	1-2	8 00	70	6
9-32	3.65	32	4 1-4				

We can furnish the above in Stubs Wire Gauge sizes when needed.

STRAIGHT FLUTED TAPER SHANK DRILLS.



No. 114.

Diameter.	Price Each	Length in Inches.	Socket for Morse Taper.	Diameter.	Price Each	Length in Inches.	Socket for Morse Taper.
1-4 "	\$0.60	6 1-8	No. 1, \$1.20.	3-4 "	\$1.85	9 3-4	No. 2, \$1.80.
9-32	.65	6 1-4		25-32	2.00	9 7-8	
5-16	.70	6 3-8		13-16	2.15	10	
11-32	.75	6 1-2		27-32	2.30	10 1-4	
3-8	.80	6 3-4		7-8	2.45	10 1-2	
13-32	.85	7		29-32	2.60	10 5-8	
7-16	.90	7 1-4		15-16	2.75	10 3-4	
15-32	.95	7 1-2		31-32	2.90	10 7-8	
1-2	1.00	7 3-4		1	3.00	11	
17-32	1.10	8		1 1-32	3.20	11 1-8	
9-16	1.20	8 1-4	No. 2, \$1.80	1 1-16	3.40	11 1-4	No. 3, \$2.80.
19-32	1.30	8 1-2		1 3-32	3.60	11 1-2	
5-8	1.40	8 3-4		1 1-8	3.80	11 3-4	
21-32	1.50	9		1 5-32	4.00	11 7-8	
11-16	1.60	9 1-4		1 3-16	4.20	12	
23-32	1.70	9 1-2		1 1-4	4.50	12 1-2	

We furnish the above by 64ths and all sizes to 3", if ordered.

STEEL SOCKETS FOR "STANDARD" TAPER SHANK DRILLS.



NO. 116, "STANDARD" TAPER SOCKET.

No. 1.	Holds 1-4 to 19-32 inch, inclusive.....	\$1.20
No. 2.	Holds 5-8 to 29-32 inch, inclusive.....	1.80
No. 3.	Holds 15-16 to 1 1/4 inch, inclusive.....	2.50
No. 4.	Holds 1 9/32 to 2 inch, inclusive.....	4.00
No. 5.	Holds 2 1/16 to 2 1/2 inch, inclusive.....	7.50

STEEL SOCKETS FOR "STANDARD" TAPER SHANK DRILLS.



NO. 117.

No. 1.	With Shank fitted to No. 2 or 3 Socket.....	\$2.00
No. 2.	With Shank fitted to No. 3 Socket.....	2.50
No. 3.	With Shank fitted to No. 4 Socket.....	3.20
No. 4.	With Shank fitted to No. 5 Socket.....	4.80

STEEL SOCKETS OR SLEEVES FOR "STANDARD" TAPER SHANK DRILLS.

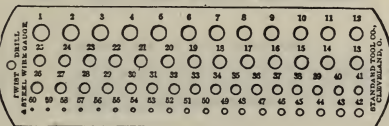


NO. 118.

No. 1.	Fitted to No. 2 or 3 Socket.....	\$1.80
No. 2.	Fitted to No. 3 Socket.....	2.40
No. 3.	Fitted to No. 4 Socket.....	3.00
No. 4.	Fitted to No. 5 Socket.....	4.40

"Standard" Sockets are made in conformity with Morse Taper.

TWIST DRILL AND STEEL WIRE GAUGE.



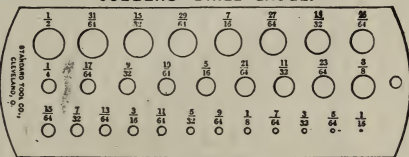
No. 119.

Price.....\$1 25

SIZES OF GAUGE IN DECIMALS.

No.	Size of Number.	No.	Size of Number.	No.	Size of Number.	No.	Size of Number.
1	.2280	16	.1770	31	.1200	46	.0810
2	.2210	17	.1730	32	.1160	47	.0785
3	.2130	18	.1695	33	.1130	48	.0760
4	.2090	19	.1660	34	.1110	49	.0730
5	.2055	20	.1610	35	.1100	50	.0700
6	.2040	21	.1590	36	.1065	51	.0670
7	.2010	22	.1570	37	.1040	52	.0635
8	.1990	23	.1540	38	.1015	53	.0595
9	.1960	24	.1520	39	.0995	54	.0550
10	.1935	25	.1495	40	.0980	55	.0520
11	.1910	26	.1470	41	.0960	56	.0465
12	.1890	27	.1440	42	.0935	57	.0430
13	.1850	28	.1405	43	.0890	58	.0420
14	.1820	29	.1360	44	.0860	59	.0410
15	.1800	30	.1285	45	.0820	60	.0400

JOBBER'S' DRILL GAUGE.



No. 120.

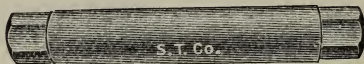
Price.....\$2 25

SIZES OF GAUGE IN DECIMALS.

Size.	Decimal.	Size.	Decimal.	Size.	Decimal.	Size.	Decimal.	Size.	Decimal.
1-16	.0625	5-32	.15625	1-4	.25	11-32	.34375	7-16	.4375
5-64	.07812	11-64	.17187	17-64	.26562	23-64	.35937	29-64	.45312
3-32	.09375	3-16	.1875	9-32	.28125	3-8	.375	15-32	.46875
7-64	.10937	13-64	.20312	19-64	.29687	25-64	.39062	31-64	.48437
1-8	.125	7-32	.21875	5-16	.3125	13-32	.40625	1-2	.50
9-64	.14062	15-64	.23437	21-64	.32812	27-64	.42187		

STANDARD STEEL MANDRELS,

HARDENED AND GROUND.



No. 121.

The Mandrels are slightly tapered and correspond in size to our Reamers, and will fit holes reamed by them.

Diameter	Price Each.	Length in inches.	Diameter.	Price Each.	Length in inches.
1-4 "	\$0 65	2 3-4	2 3-16 "	\$6 00	12
6-16	75	4	2 1-4	6 50	12
3-8	85	4 1-4	2 5-16	6 90	12
7-16	95	4 1-2	2 3-8	7 40	12
1-2	1 05	5	2 7-16	7 90	12 1-2
9-16	1 15	5 1-4	2 1-2	8 40	12 1-2
5-8	1 25	5 1-2	2 9-16	8 90	12 1-2
11-16	1 35	5 3-4	2 5-8	9 40	13
3-4	1 45	6	2 11-16	9 90	13
13-16	1 55	6 1-4	2 3-4	10 50	13
7-8	1 70	6 1-2	2 13-16	11 00	13
15-16	1 85	6 3-4	2 7-8	11 50	13
1	2 00	7	2 15-16	12 00	13
1 1-16	2 10	7 1-4	3	12 50	13
1 1-8	2 20	7 1-2	3 1-16	13 00	14
1 3-16	2 30	7 3-4	3 1-8	13 40	14
1 1-4	2 45	8	3 3-16	13 80	14
1 5-16	2 60	8 1-4	3 1-4	14 10	14
1 3-8	2 75	8 1-2	3 5-16	14 40	15
1 7-16	2 90	8 3-4	3 3-8	14 70	15
1 1-2	3 10	9	3 7-16	15 00	15
1 9-16	3 30	9 1-4	3 1-2	15 30	15
1 5-8	3 50	9 1-2	3 9-16	15 60	16
1 11-16	3 70	9 3-4	3 5-8	15 90	16
1 3-4	3 90	10	3 11-16	16 20	16
1 13-16	4 10	10 1-4	3 3-4	16 50	16
1 7-8	4 35	10 1-2	3 13-16	16 80	17
1 15-16	4 60	10 3-4	3 7-8	17 20	17
2	4 80	11	3 15-16	17 60	17
2 1-16	5 15	11 1-2	4	18 00	17
2 1-8	5 60	11 1-2			

STANDARD HAND REAMERS.



No. 122.

Diameter.	Price Each.	Length in inches.	Length of Flute in inches.	Diameter.	Price Each	Length in inches.	Length of Flute in inches.
1-8	\$1.00*	3	1 1-2	1 11-32	\$5.40	12 17-32	6 17-64
5-32	1.10	3 1-4	1 5-8	1 3-8	5.60	12 5-8	6 5-16
3-16	1.20	3 1-2	1 3-4	1 13-32	5.80	12 23-32	6 23-64
7-32	1.30	3 3-4	1 7-8	1 7-16	6.00	12 13-16	6 13-32
1-4	1.40	4	2	1 15-32	6.20	12 29-32	6 29-64
9-32	1.45	4 1-4	2 1-8	1 1-2	6.40	13	6 1-2
5-16	1.50	4 1-2	2 1-4	1 17-32	6.60	13	6 1-2
11-32	1.55	4 3-4	2 3-8	1 9-16	6.80	13	6 1-2
3-8	1.60	5	2 1-2	1 19-32	7.00	13	6 1-2
13-32	1.70	5 1-4	2 5-8	1 5-8	7.20	13	6 1-2
7-16	1.75	5 1-2	2 3-4	1 21-32	7.40	13 1-2	6 3-4
15-32	1.85	5 3-4	2 7-8	1 11-16	7.60	13 1-2	6 3-4
1-2	1.90	6	3	1 23-32	7.80	13 1-2	6 3-4
17-32	1.95	6 1-4	3 1-8	1 3-4	8.00	13 1-2	6 3-4
9-16	2.00	6 1-2	3 1-4	1 25-32	8.20	13 1-2	6 3-4
19-32	2.10	6 3-4	3 3-8	1 13-16	8.40	13 1-2	6 3-4
5-8	2.20	7	3 1-2	1 27-32	8.60	13 1-2	6 3-4
21-32	2.30	7 11-32	3 43-64	1 7-8	8.80	14	7
11-16	2.40	7 11-16	3 27-32	1 29-32	9.00	14	7
23-32	2.50	8 1-8	4 1-16	1 15-16	9.20	14	7
3-4	2.60	8 3-8	4 3-16	1 31-32	9.40	14	7
25-32	2.70	8 23-32	4 23-64	2	9.60	14	7
13-16	2.80	9 1-16	4 17-32	2 1-16	10.00	14 1-2	7 1-4
27-32	2.95	9 3-8	4 11-16	2 1-8	10.40	14 1-2	7 1-4
7-8	3.10	9 11-16	4 27-32	2 3-16	10.80	15	7 1-2
29-32	3.25	10 3-32	5 3-64	2 1-4	11.30	15	7 1-2
15-16	3.40	10 1-4	5 1-8	2 5-16	11.80	15	7 1-2
31-32	3.55	10 11-16	5 11-32	2 3-8	12.30	15	7 1-2
1	3.70	10 7-8	5 7-16	2 7-16	12.80	15 1-2	7 3-4
1 1-32	3.85	11 1-16	5 17-32	2 1-2	13.40	15 1-2	7 3-4
1 1-16	4.00	11 1-4	5 5-8	2 9-16	14.00	15 1-2	7 3-4
1 3-32	4.15	11 7-16	5 23-32	2 5-8	14.60	16	8
1 1-8	4.30	11 5-8	5 13-16	2 11-16	15.40	16	8
1 5-32	4.45	11 13-16	5 29-32	2 3-4	16.20	16	8
1 3-16	4.60	12	6	2 13-16	17.00	16 1-2	8 1-4
1 7-32	4.75	12 1-8	6 1-16	2 7-8	17.80	16 1-2	8 1-4
1 1-4	4.90	12 1-4	6 1-8	2 15-16	18.60	16 1-2	8 1-4
1 9-32	5.05	12 11-32	6 11-64	3	19.40	16 1-2	8 1-4
1 5-16	5.20	12 7-16	6 7-32				

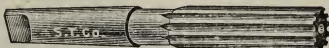
SELF-FEEDING HAND REAMERS.



No. 122 A.

Diameter.	Price Each.	Length in inches.	Length of Flute. in inches
1-4 "	\$1 40	4	2
9-32	1 45	4 1-4	2 1-8
5-16	1 50	4 1-2	2 1-4
11-32	1 55	4 3-4	2 3-8
3-8	1 60	5	2 1-2
13-32	1 65	5 1-4	2 5-8
7-16	1 75	5 1-2	2 3-4
15-32	1 85	5 3-4	2 7-8
1-2	1 90	6	3
17-32	1 95	6 1-4	3 1-8
9-16	2 00	6 1-2	3 1-4
19-32	2 10	6 3-4	3 3-8
5-8	2 20	7	3 1-2
21-32	2 30	7 3-8	3 5-8
11-16	2 40	7 11-16	3 13-16
23-32	2 50	8	4
3-4	2 60	8 3-8	4 3-16
25-32	2 70	8 11-16	4 5-16
13-16	2 80	9 11-16	4 1-2
27-32	2 95	9 3-8	4 5-8
7-8	3 10	9 11-16	4 13-16
29-32	3 25	10	5
15-16	3 40	10 1-4	5 1-8
31-32	3 55	10 1-2	5 5-16
1	3 70	10 7-8	5 7-16
1 1-32	3 85	11	5 1-2
1 1-16	4 00	11 1-4	5 5-8
1 3-32	4 15	11 3-8	5 11-16
1 1-8	4 30	11 3-8	5 13-16
1 5-32	4 45	11 13-16	5 7-8
1 3-16	4 60	12	6
1 7-32	4 75	12 1-8	6 1-16
1 1-4	4 90	12 1-4	6 1-8
1 5-16	5 20	12 7-16	6 3-16
1 3-8	5 60	12 5-8	6 5-16
1 7-16	6 00	12 13-16	6 3-8
1 1-2	6 40	13	6 1-2
1 9-16	6 80	13	6 1-2
1 5-8	7 20	13	6 1-2
1 11-16	7 60	13 1-2	6 3-4
1 3-4	8 00	13 1-2	6 3-4
1 13-16	8 40	13 1-2	6 3-4
1 7-8	8 80	14	7
1 15-16	9 20	14	7
2	9 60	14	7

JOBBER'S' REAMERS WITH **MORSE TAPER SHANKS.**



No. 122 B.

Diameter.	Price Each.	Length in inches.	Length of Flute in inches.	Socket for Morse Taper.	Diameter	Price Each.	Length in inches.	Length of Flute in inches.	Socket for Morse Taper.
1-4 "	\$1 50	5 3-16	2	No. 1, \$1.20.	1 13-32"	\$5 90	12 13-16	6 5-16	No. 4, \$4.00.
9-32	1 55	5 3-16	2		1 7-16	6 10	13	6 7-16	
5-16	1 60	5 1-2	2 1-4		1 15-32	6 30	13	6 7-16	
11-32	1 65	5 1-2	2 1-4		1 1-2	6 50	13 1-8	6 1-2	
3-8	1 70	5 13-16	2 1-2		1 17-32	6 70	13 1-8	6 1-2	
13-32	1 80	5 13-16	2 1-2		1 9-16	6 90	13 1-8	6 1-2	
7-16	1 85	6 1-8	2 3-4		1 19-32	7 10	13 1-8	6 1-2	
15-32	1 95	6 1-8	2 3-4		1 5-8	7 30	13 1-8	6 1-2	
1-2	2 00	6 7-16	3		1 21-32	7 50	13 1-8	6 1-2	
17-32	2 10	6 7-16	3		1 11-16	7 70	14 11-16	6 3-4	
9-16	2 15	6 3-4	3 1-4	No. 2, \$1.80.	1 23-32	7 85	14 11-16	6 3-4	No. 5, \$7.50.
19-32	2 25	6 3-4	3 1-4		1 3-4	8 00	14 11-16	6 3-4	
6-8	2 30	7 9-16	3 1-2		1 25-32	8 20	14 11-16	6 3-4	
21-32	2 40	7 9-16	3 1-2		1 13-16	8 40	14 11-16	6 3-4	
11-16	2 50	8	3 7-8		1 27-32	8 60	14 11-16	6 3-4	
23-32	2 60	8	3 7-8		1 7-8	8 80	15	7	
3-4	2 70	8 3-8	4 3-16		1 29-32	9 00	15	7	
25-32	2 80	8 3-8	4 3-16		1 15-16	9 20	15	7	
13-16	2 90	8 13-16	4 9-16		1 31-32	9 40	15	7	
27-32	3 05	8 13-16	4 9-16		2	9 60	15	7	
7-8	3 20	9 3-16	4 7-8	No. 3, \$2.50.	2 1-16	10 00	15 1-2	7 1-4	No. 5, \$7.50.
29-32	3 35	9 3-16	4 7-8		2 1-8	10 40	15 1-2	7 1-4	
15-16	3 50	10	5 1-8		2 3-16	10 80	15 1-2	7 1-4	
31-32	3 65	10	5 1-8		2 1-4	11 30	15 1-2	7 1-4	
1	3 80	10 3-8	5 7-16		2 5-16	11 60	16	7 1-2	
11-32	3 95	10 3-8	5 7-16		2 3-8	12 30	16	7 1-2	
11-16	4 10	10 5-8	5 5-8		2 7-16	12 80	16	7 1-2	
13-32	4 25	10 5-8	5 5-8		2 1-2	13 40	16	7 1-2	
1 1-8	4 40	10 7-8	5 13-16		2 9-16	14 00	16 1-2	7 3-4	
15-32	4 55	10 7-8	5 13-16		2 5-8	14 60	16 1-2	7 3-4	
13-16	4 70	11 1-8	6	No. 4, \$4.00.	2 11-16	15 40	16 1-2	7 3-4	No. 5, \$7.50.
17-32	4 85	11 1-8	6		2 3-4	16 20	16 1-2	7 3-4	
1 1-4	5 00	11 5-8	6 1-8		2 13-16	17 00	17	8	
19-32	5 15	11 5-8	6 1-8		2 7-8	17 80	17	8	
15-16	5 30	12 11-16	6 1-4		2 15-16	18 60	17	8	
1 11-32	5 50	12 11-16	6 1-4		3	19 40	17	8	
1 3-8	5 70	12 13-16	6 5-16						



STANDARD SHELL REAMERS.



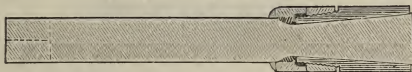
No. 123.

Diameter.	Price Each.	Length in Inches.	Size Hole in Inches.	Diameter.	Price Each.	Length in Inches.	Size Hole in Inches.
1-4	\$1.10	1 1-2	1-8	2 13-16	\$8.40	4	1 1-2
5-16	1.10	1 1-2	1-8	2 7-8	8.80	4	1 1-2
3-8	1.20	1 3-4	3-16	2 15-16	9.20	4	1 1-2
7-16	1.30	1 3-4	3-16	3	9.60	4	1 1-2
1-2	1.40	2	1-4	3 1-16	9.90	4 1-2	1 3-4
9-16	1.50	2	1-4	3 1-8	10.20	4 1-2	1 3-4
5-8	1.60	2 1-4	3-8	3 3-16	10.60	4 1-2	1 3-4
11-16	1.60	2 1-4	3-8	3 1-4	11.00	4 1-2	1 3-4
3-4	1.60	2 1-2	1-2	3 5-16	11.50	4 1-2	1 3-4
13-16	1.60	2 1-2	1-2	3 3-8	12.00	4 1-2	1 3-4
7-8	1.70	2 1-2	1-2	3 7-16	12.50	4 1-2	1 3-4
15-16	1.70	2 1-2	1-2	3 1-2	13.00	4 1-2	1 3-4
1	1.80	2 3-4	5-8	3 9-16	13.50	5	2
1 1-16	1.80	2 3-4	5-8	3 5-8	14.00	5	2
1 1-8	1.90	2 3-4	5-8	3 11-16	14.50	5	2
1 3-16	2.00	2 3-4	5-8	3 3-4	15.00	5	2
1 1-4	2.20	2 3-4	5-8	3 13-16	15.50	5	2
1 5-16	2.40	3	3-4	3 7-8	16.00	5	2
1 3-8	2.60	3	3-4	3 15-16	17.00	5	2
1 7-16	2.80	3	3-4	4	18.00	5	2
1 1-2	3.00	3	3-4	4 1-16	18.30	5 1-2	2 1-4
1 9-16	3.20	3	3-4	4 1-8	18.60	5 1-2	2 1-4
1 5-8	3.50	3	3-4	4 3-16	19.00	5 1-2	2 1-4
1 11-16	3.80	3 1-2	1	4 1-4	19.40	5 1-2	2 1-4
1 3-4	4.10	3 1-2	1	4 5-16	19.80	5 1-2	2 1-4
1 13-16	4.40	3 1-2	1	4 3-8	20.20	5 1-2	2 1-4
1 7-8	4.70	3 1-2	1	4 7-16	20.60	5 1-2	2 1-4
1 15-16	5.00	3 1-2	1	4 1-2	21.00	5 1-2	2 1-4
2	5.20	3 1-2	1	4 9-16	21.60	5 1-2	2 1-4
2 1-16	5.40	3 3-4	1 1-4	4 5-8	22.20	6	2 1-2
2 1-8	5.60	3 3-4	1 1-4	4 11-16	22.80	6	2 1-2
2 3-16	5.80	3 3-4	1 1-4	4 3-4	23.40	6	2 1-2
2 1-4	6.00	3 3-4	1 1-4	4 13-16	24.00	6	2 1-2
2 5-16	6.20	3 3-4	1 1-4	4 7-8	24.60	6	2 1-2
2 3-8	6.40	3 3-4	1 1-4	4 15-16	25.20	6	2 1-2
2 7-16	6.60	3 3-4	1 1-4	5	26.00	6	2 1-2
2 1-2	6.80	3 3-4	1 1-4	5 1-4	30.00	6	2 1-2
2 9-16	7.00	4	1 1-2	5 1-2	34.00	6	2 1-2
2 5-8	7.30	4	1 1-2	5 3-4	38.00	6	2 1-2
2 11-16	7.60	4	1 1-2	6	42.00	6	2 1-2
2 3-4	8.00	4	1 1-2				

Shell Reamers of any size or length made to order.

ADJUSTABLE UNIVERSAL SOLID REAMERS.

WEBER'S PATENT.

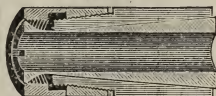


No. 123 A.

SIZE IN INCHES.	PRICE EACH.	LENGTH IN INCHES.	SIZE IN INCHES.	PRICE EACH.	LENGTH IN INCHES.
1	\$ 7 50	15 inch.	1 7-8	\$14 50	17
1 1-8	8 50	15 "	2	15 50	18
1 1-4	9 50	15 "	2 1-8	16 50	18
1 3-8	10 50	16 "	2 1-4	17 50	18
1 1-2	11 50	16 "	2 3-8	18 50	18
1 5-8	12 50	16 "	2 1-2	19 50	18
1 3-4	13 50	17 "			

ADJUSTABLE UNIVERSAL SHELL REAMERS.

WEBER'S PATENT.



No. 123 B.

SIZE IN INCHES.	PRICE EACH.	LENGTH IN INCHES.	SIZE IN INCHES.	PRICE EACH.	LENGTH IN INCHES.
2 1-4	\$15 00	5 3-4	4	\$28 50	7
2 3-8	15 50	5 3-4	4 1-8	30 00	7 1-2
2 1-2	16 00	5 3-4	4 1-4	32 00	7 1-2
2 5-8	16 50	5 3-4	4 3-8	34 00	7 1-2
2 3-4	17 00	5 3-4	4 1-2	36 00	7 1-2
2 7-8	17 50	5 3-4	4 5-8	38 00	7 1-2
3	18 00	6 1-4	4 3-4	40 00	7 1-2
3 1-8	19 00	6 1-4	4 7-8	42 00	7 1-2
3 1-4	20 00	6 1-4	5	44 00	8
3 3-8	21 00	6 1-4	5 1-4	48 00	8
3 1-2	22 50	6 1-4	5 1-2	52 00	8
3 5-8	24 00	6 1-4	5 3-4	56 00	8
3 3-4	25 50	6 1-4	6	60 00	8
3 7-8	27 00	6 1-4			

These reamers have an adjustment of 1-8 of an inch, allowing, for instance, of a 2" reamer being used for reaming any sized hole from 2" to 2 1-8" or being kept to a standard of 2" with 1-8" inch allowance for wear.

FLUTED CHUCKING REAMERS.



No. 124.

Diameter.	Price Each	Length in inches.	Length of Flute in inches.	Diameter.	Price Each	Length in inches.	Length of Flute in inches.
1-4 "	\$9.90	6	7-8	1 7-32 "	12.85	11	13-4
9-32	.95	6	7-8	1 1-4	2.90	11 1-2	17-8
5-16	1.00	6	7-8	1 5-16	3.03	11 1-2	17-8
11-32	1.05	6	7-8	1 3-8	3.20	12	2
3-8	1.10	7	1	1 7-16	3.35	12	2
13-32	1.15	7	1	1 1-2	3.50	12 1-2	21-8
7-16	1.20	7	1	1 9-16	3.65	12 1-2	21-8
15-32	1.25	7	1	1 5-8	3.80	13	21-4
1-2	1.30	8	11-8	1 11-16	4.00	13	21-4
17-32	1.35	8	11-8	1 3-4	4.20	13 1-2	23-8
9-16	1.40	8	11-8	1 13-16	4.40	13 1-2	23-8
19-32	1.45	8	11-8	1 7-8	4.60	14	21-2
5-8	1.50	9	11-4	1 15-16	4.80	14	21-2
21-32	1.55	9	11-4	2	5.00	14	21-2
11-16	1.60	9	11-4	2 1-16	5.30	14 1-2	23-4
23-32	1.65	9	11-4	2 1-8	5.60	14 1-2	23-4
3-4	1.70	9 1-2	13-8	2 3-16	5.90	14 1-2	23-4
25-32	1.80	9 1-2	13-8	2 1-4	6.20	14 1-2	23-4
13-16	1.85	9 1-2	13-8	2 5-16	6.50	15	3
27-32	1.90	9 1-2	13-8	2 3-8	6.80	15	3
7-8	2.00	10	11-2	2 7-16	7.10	15	3
29-32	2.10	10	11-2	2 1-2	7.40	15	3
15-16	2.15	10	11-2	2 9-16	7.70	15 1-2	31-4
31-32	2.25	10	11-2	2 5-8	8.00	15 1-2	31-4
1	2.30	10 1-2	15-8	2 11-16	8.35	15 1-2	31-4
1 1-32	2.40	10 1-2	15-8	2 3-4	8.70	15 1-2	31-4
1 1-16	2.45	10 1-2	15-8	2 13-16	9.00	16	31-2
1 3-32	2.55	10 1-2	15-8	2 7-8	9.35	16	31-2
1 1-8	2.60	11	13-4	2 15-16	9.70	16	31-2
1 5-32	2.70	11	13-4	3	10.00	16	31-2
1 3-16	2.75	11	13-4				

ROSE CHUCKING REAMERS.



No. 124 A.

Diameter	Price Each.	Length in inches.	Diameter	Price Each.	Length in inches.
1-4 "	\$0.60	6	1 7-32 "	\$2.65	11
9-32	.65	6	1 1-4	2.70	11 1-2
5-16	.90	6	1 5-16	2.85	11 1-2
11-32	.95	6	1 3-8	3.00	12
3-8	1.00	7	1 7-16	3.15	12
13-32	1.05	7	1 1-2	3.30	12 1-2
7-16	1.10	7	1 9-16	3.45	12 1-2
15-32	1.15	7	1 5-8	3.60	13
1-2	1.20	8	1 11-16	3.75	13
17-32	1.25	8	1 3-4	3.90	13 1-2
9-16	1.30	8	1 13-16	4.05	13 1-2
19-32	1.35	8	1 7-8	4.20	14
5-8	1.40	9	1 15-16	4.40	14
21-32	1.45	9	2	4.60	14
11-16	1.50	9	2 1-16	4.90	14 1-2
23-32	1.55	9	2 1-8	5.20	14 1-2
3-4	1.60	9 1-2	2 3-16	5.50	14 1-2
25-32	1.65	9 1-2	2 1-4	5.80	14 1-2
18-16	1.70	9 1-2	2 5-16	6.10	15
27-32	1.75	9 1-2	2 3-8	6.40	15
7-8	1.80	10	2 7-16	6.80	15
29-32	1.90	10	2 1-2	7.20	15
15-16	1.95	10	2 9-16	7.50	15 1-2
31-32	2.05	10	2 5-8	7.80	15 1-2
1	2.10	10 1-2	2 11-16	8.10	15 1-2
1 1-32	2.20	10 1-2	2 3-4	8.40	15 1-2
1 1-16	2.25	10 1-2	2 13-16	8.80	16
1 3-32	2.35	10 1-2	2 7-8	9.20	16
1 1-8	2.40	11	2 15-16	9.60	16
1 5-32	2.50	11	3	10.00	16
1 3-16	2.55	11			

FLUTED CHUCKING REAMERS

— WITH —

MORSE TAPER SHANKS.



No. 124 G.

Diameter	Price Each.	Length in Inches.	Length of Flute in Inches	Socket for Morse Taper.	Diameter.	Price Each.	Length in Inches.	Length of Flute in Inches.	Socket for Morse Taper.
1-4 "	\$1 20	6	7-8	No. 1.	1 7-32"	\$3 40	11	1 3-4	No. 3.
9-32	1 20	6	7-8		1 1-4	3 50	11 1-2	1 7-8	No. 4.
5-16	1 30	6	7-8		1 5-16	3 70	11 1-2	1 7-8	
11-32	1 30	6	7-8		1 3-8	3 95	12	2	
3-8	1 45	7	1		1 7-16	4 15	12	2	
13-32	1 50	7	1		1 1-2	4 40	12 1-2	2 1-8	
7-16	1 55	7	1		1 9-16	4 60	12 1-2	2 1-8	
15-32	1 60	7	1		1 5-8	4 85	13	2 1-4	
1-2	1 65	8	1 1-8		1 11-16	5 10	13	2 1-4	
17-32	1 70	8	1 1-8		1 3-4	5 30	13 1-2	2 3-8	
9-16	1 75	8	1 1-8		1 13-16	5 50	13 1-2	2 3-8	
19-32	1 80	8	1 1-8		1 7-8	5 70	14	2 1-2	
5-8	1 90	9	1 1-4	No. 2.	1 15-16	5 95	14	2 1-2	No. 5.
21-32	1 95	9	1 1-4		2	6 20	14	2 1-2	
11-16	2 00	9	1 1-4		2 1-16	6 50	14 1-2	2 3-4	
23-32	2 10	9	1 1-4		2 1-8	6 80	14 1-2	2 3-4	
3-4	2 20	9 1-2	1 3-8		2 3-16	7 10	14 1-2	2 3-4	
25-32	2 30	9 1-2	1 3-8		2 1-4	7 40	14 1-2	2 3-4	
13-16	2 40	9 1-2	1 3-8		2 5-16	7 70	15	3	
27-32	2 50	9 1-2	1 3-8		2 3-8	8 00	15	3	
7-8	2 55	10	1 1-2		2 7-16	8 40	15	3	
29-32	2 60	10	1 1-2		2 1-2	8 80	15	3	
15-16	2 65	10	1 1-2		2 9-16	9 20	15 1-2	3 1-4	
31-32	2 70	10	1 1-2		2 5-8	9 60	15 1-2	3 1-4	
1	2 75	10 1-2	1 5-8	No. 3.	2 11-16	10 00	15 1-2	3 1-4	
1 1-32	2 80	10 1-2	1 5-8		2 3-4	10 40	15 1-2	3 1-4	
1 1-16	2 85	10 1-2	1 5-8		2 13-16	10 80	16	3 1-2	
1 3-32	2 95	10 1-2	1 5-8		2 7-8	11 20	16	3 1-2	
1 1-8	3 10	11	1 3-4		2 15-16	11 60	16	3 1-2	
1 5-32	3 20	11	1 3-4		3	12 00	16	3 1-2	
1 3-16	3 30	11	1 3-4						

ROSE CHUCKING REAMER

WITH

MORSE TAPER SHANK,



No. 124 C.

Diameter.	Price Each.	Length in inches.	Length of Flute in inches.	Socket for Morse Taper.	Diameter.	Price Each.	Length in inches.	Length of Flute in inches.	Socket for Morse Taper.
1-4 "	\$1.20	6	11-2	No. 1.	1 1-4"	\$3.50	11-2	3	No. 4.
9-32	1.20	6	11-2		1 5-16	3.70	11-2	3	
5-16	1.30	6	11-2		1 3-8	3.95	12	3 1-4	
11-32	1.30	6	11-2		1 7-16	4.15	12	3 1-4	
3-8	1.45	7	13-4		1 1-2	4.40	12 1-2	3 1-2	
13-32	1.50	7	13-4		1 9-16	4.60	12 1-2	3 1-2	
7-16	1.55	7	13-4		1 5-8	4.85	13	3 3-4	
15-32	1.60	7	13-4		1 11-16	5.10	13	3 3-4	
1-2	1.65	8	2		1 3-4	5.30	13 1-2	4	
17-32	1.70	8	2		1 13-16	5.50	13 1-2	4	
9-16	1.75	8	2		1 7-8	5.70	14	4 1-4	
19-32	1.80	8	2		1 15-16	5.95	14	4 1-4	
5-8	1.90	9	2 1-4		2	6.20	14	4 1-4	
21-32	1.95	9	3 1-4	No. 2.	2 1-16	6.50	14 1-2	4 1-2	No. 5.
11-16	2.00	9	3 1-4		2 1-8	6.80	14 1-2	4 1-2	
23-32	2.10	9	2 1-4		2 3-16	7.10	14 1-2	4 1-2	
3-4	2.20	9 1-2	2 1-2		2 1-4	7.40	14 1-2	4 1-2	
25-32	2.30	9 1-2	2 1-2		2 5-16	7.70	15	4 3-4	
13-16	2.40	9 1-2	2 1-2		2 3-8	8.00	15	4 3-4	
27-32	2.50	9 1-2	2 1-2		2 7-16	8.40	15	4 3-4	
7-8	2.55	10	2 5-8		2 1-2	8.80	15	4 3-4	
29-32	2.60	10	2 5-8		2 9-16	9.20	15 1-2	5	
15-16	2.65	10	2 5-8		2 5-8	9.60	15 1-2	5	
31-32	2.70	10	2 5-8		2 11-16	10.00	15 1-2	5	
1	2.75	10 1-2	2 3-4	No. 3.	2 3-4	10.40	15 1-2	5	
1 1-32	2.80	10 1-2	2 3-4		2 13-16	10.80	16	5 1-4	
1 1-16	2.85	10 1-2	2 3-4		2 7-8	11.20	16	5 1-4	
1 3-32	2.95	10 1-2	2 3-4		2 15-16	11.60	16	5 1-4	
1 1-8	3.10	11	2 7-8		3	12.00	16	5 1-4	
1 5-32	3.20	11	2 7-8						
1 3-16	3.30	11	2 7-8						
1 7-32	3.40	11	2 7-8						

THREE GROOVE CHUCKING REAMER.



No. 124. D.

Diameter.	Price.	Length in inches.	Length of Flutes. in inches.	Socket for Morse Taper.	Diameter.	Price.	Length in inches.	Length of Flutes. in inches.	Socket for Morse Taper.
3-8"	\$1.70	6 3-4	4	No. 2.	1 1-4"	\$4.80	16	10 1-2	No. 4.
7-16	1.80	7 1-4	4 1-2		1 5-16	5.20	16	10 1-2	
1-2	1.90	8	5		1 3-8	5.60	16	10 1-2	
9-16	2.00	9	6		1 7-16	6.00	16	10 1-2	
5-8	2.60	13	9		1 1-2	6.40	16	10 1-2	
11-16	2.75	13	9		1 9-16	6.90	16	10 1-2	
3-4	2.90	13	9		1 5-8	7.40	16	10 1-2	
13-16	3.05	13	9		1 11-16	7.90	16	10 1-2	
7-8	3.20	13	9		1 3-4	8.40	16	10	
15-16	3.40	13	9		1 13-16	8.80	16	10	No. 6.
1	3.60	13	9	No. 3.	1 7-8	9.20	16	10	
1 1-16	3.80	13	9		1 15-16	9.50	16	10	
1 1-8	4.00	13	9		2	9.80	16	10	
1 3-16	4.50	16	10 1-2						

These Chucking Reamers are furnished with Taper or Straight Shanks, and are 1-64 in. under size, unless otherwise ordered. Special lengths made to order.

TAPER REAMERS.



No. 125.

PRICES.

For Reamer, Taper of Morse Drill Socket No. 1	\$2.00
For Reamer, Taper of Morse Drill Socket No. 2	2.60
For Reamer, Taper of Morse Drill Socket No. 3	3.40
For Reamer, Taper of Morse Drill Socket No. 4	4.20
For Reamer, Taper of Morse Drill Socket No. 5	6.60
For Reamer, Taper of Morse Drill Socket No. 6	12.00

DIMENSIONS OF "STANDARD" REAMERS FOR MORSE TAPER SOCKET.

No.	Length in inches.	Length of Flute. in inches.	Taper.	Taper per Foot. in inches.
1	5 7-8	3 1-2	.5415 by .365	0.605
2	7 1-2	4 1-2	.797 " .573	0.600
3	8 1-4	5	1.025 " .775	0.600
4	9	5 1-2	1.303 " 1.021	0.615
5	9 7-8	5 7-8	1.786 " 1.480	0.625
6	12	9	2.597 " 2.129	0.624

STANDARD TAPER PIN REAMERS.



No. 126

Taper 1-4 inch per foot.

Size No.	Price Each.	Diam. at Small End	Length of Flute. in inches.	Total Length. in inches.
0	\$1.00	0.125	1 1-2	2 1-4
1	1.00	0.146	1 3-4	2 1-2
2	1.25	0.163	2	3
3	1.50	0.183	2 1-4	3 1-2
4	1.75	0.208	2 1-2	4
5	2.00	0.240	3	4 1-2
6	2.25	0.279	3 5-8	5
7	2.50	0.331	4 1-2	6
8	3.00	0.398	5 1-4	6 3-4
9	3.50	0.482	6 1-8	8
10	4.00	0.581	7	9

These Reamers have the same taper, and each will overlay in convenient measure the size next smaller. Special sizes made to order.

STANDARD TAPER REAMERS

—FOR—

LOCOMOTIVE WORK.

Taper 1-16 inch per foot.



No. 127.

Diameter at End.	Price Each.	Length of Flute, in inches.	Total Length, in inches.	Diameter at End.	Price Each.	Length of Flute, in inches.	Total Length, in inches.
1-4 "	\$2.20	4	55-16	13-16 "	\$4.50	9	111-4
9-32	2.20	4	55-16	7-8	4.80	9	111-4
5-16	2.25	4	55-16	15-16	5.10	9	111-4
11-32	2.25	4	55-16	1	5.40	9	111-4
3-8	2.30	5	65-16	1 1-16	5.70	9	111-4
13-32	2.40	5	65-16	1 1-8	6.20	10	121-4
7-16	2.55	6	75-16	1 3-16	6.60	10	121-4
15-32	2.70	6	75-16	1 1-4	7.00	10	121-4
1-2	3.00	7	85-8	1 5-16	7.60	12	141-2
9-16	3.20	8	95-8	1 3-8	8.00	12	141-2
5-8	3.50	8	97-8	1 7-16	8.50	12	141-2
11-16	3.80	8	97-8	1 1-2	9.00	12	141-2
3-4	4.10	8	97-8				

Reamers of other taper per foot than as specified above, furnished as desired.

BIT STOCK TAPER REAMERS.



No. 128.

Diameter	Price	Diameter.	Price.
1-4 "	\$0.43	9-16 "	\$0.80
5-16	.50	5-8	.90
3-8	.55	11-16	1.05
7-16	.60	3-4	1.20
1-2	.70		

STANDARD TAPER REAMERS

FOR BRIDGE BUILDERS



NO. 129.

Diameter.	Price Each.	Length of Flute in Inches.	Length of End Tapered in Inches.	Full Length in Inches.
9-16-15-32-5-16 "	\$2.80	7	2	9 1-2
5-8-17-32-3-8	2.90	7	2	9 1-2
11-16-19-32-7-16	3.00	7	2	9 1-2
3-4-21-32-1-2	3.10	7	2	9 1-2
13-16-23-32-9-16	3.30	7	2	9 1-2
7-8-25-32-5-8	3.50	7	2	9 1-2
15-16-27-32-11-16	3.70	7	2	9 1-2
1-29-32-3-4	3.90	7	2	9 1-2
1 1-16-31-32-13-16	4.00	7	2	9 1-2

Special sizes made to order.

SETS OF REAMERS IN CASES.

Set Hand Reamers, 1-4 to 1 inch, by 16ths, in case complete.....	\$30.00
" " " 1-4 to 1 1-4 " " " "	48.00
" " " 1-4 to 1 1-2 " " " "	70.00
" " " 1-4 to 2 " " " "	135.00
" " " 1-4 to 1 " by 32ds, " "	57.50
" " " 1-4 to 1 1-4 " " " "	92.00
" " " 1-4 to 1 1-2 " " " "	137.00
" " " 1-4 to 2 " " " "	265.00
Set Taper Pin Reamers, Nos. 0 to 10 " "	24.00
Set Morse Taper Reamers, Nos. 1 to 5, " "	20.00
Set Bit Stock Taper Reamers, 1-4 to 3-4 inch, " "	7.00

ARBORS FOR SHELL REAMERS.



No. 130.

No.	Price Each.	Fitting Sizes.	Length in Inches.	No.	Price Each.	Fitting Sizes.	Length in Inches.
1	\$1.20	1-4 to 5-16 "	6	8	\$2.70	1 11-16 to 2 "	12
2	1.40	3-8 to 7-16	7	9	3.00	2 1-16 to 2 1-2	13
3	1.60	1-2 to 9-16	8	10	3.40	2 9-16 to 3	14
4	1.80	5-8 to 11-16	9	11	5.00	3 1-16 to 3 1-2	15
5	2.00	3-4 to 15-16	9 1-2	12	7.00	3 9-16 to 4	16
6	2.20	1 to 1 1-4	10	13	9.00	4 1-16 to 4 1-2	17
7	2.40	1 5-16 to 1 5-8	11	14	12.00	4 9-16 to 5	18

V THREAD.



Diam.,	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{1}{1}$	$\frac{1 1}{8}$	$\frac{1 1}{4}$	$\frac{1 1}{2}$	$\frac{1 3}{4}$	$\frac{2}{1}$
Pitch,	20	18	16	14	12	12	11	11	10	10	9	9	8	7

Diam.,	$1 \frac{1}{8}$	$1 \frac{1}{4}$	$1 \frac{1}{2}$	$1 \frac{3}{4}$	$1 \frac{7}{8}$	2	$2 \frac{1}{8}$	$2 \frac{1}{4}$	$2 \frac{1}{2}$	3	$3 \frac{1}{8}$	$3 \frac{1}{4}$	$3 \frac{1}{2}$	4
Pitch,	6	6	5	5	$4 \frac{1}{2}$	$4 \frac{1}{2}$	4	4	$3 \frac{1}{2}$	$3 \frac{1}{2}$	$3 \frac{1}{2}$	$3 \frac{1}{2}$	3	3

WHITWORTH STANDARD.



Diam.,	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{1}{1}$	$\frac{1 1}{8}$	$\frac{1 1}{4}$	$\frac{1 1}{2}$	$\frac{1 3}{4}$	$\frac{2}{1}$
Pitch,	20	18	16	14	12	12	11	11	10	10	9	9	8	7

Diam.,	$1 \frac{1}{8}$	$1 \frac{1}{4}$	$1 \frac{1}{2}$	$1 \frac{3}{4}$	$1 \frac{7}{8}$	2	$2 \frac{1}{8}$	$2 \frac{1}{4}$	$2 \frac{1}{2}$	3	$3 \frac{1}{8}$	$3 \frac{1}{4}$	$3 \frac{1}{2}$	4
Pitch,	6	6	5	5	$4 \frac{1}{2}$	$4 \frac{1}{2}$	4	4	$3 \frac{1}{2}$	$3 \frac{1}{2}$	$3 \frac{1}{2}$	$3 \frac{1}{2}$	3	3

UNITED STATES OR FRANKLIN INSTITUTE STANDARD.



Diam.,	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	$\frac{1}{1}$	$\frac{1 1}{8}$	$\frac{1 1}{4}$	$\frac{1 1}{2}$	$\frac{1 3}{4}$	$\frac{2}{1}$
Pitch,	20	18	16	14	13	12	11	11	10	10	9	9	8	7

Diam.,	$1 \frac{1}{8}$	$1 \frac{1}{4}$	$1 \frac{1}{2}$	$1 \frac{3}{4}$	$1 \frac{7}{8}$	2	$2 \frac{1}{8}$	$2 \frac{1}{4}$	$2 \frac{1}{2}$	$2 \frac{3}{4}$	3	$3 \frac{1}{8}$	$3 \frac{1}{4}$	$3 \frac{1}{2}$
Pitch,	6	6	$5 \frac{1}{2}$	5	5	5	$4 \frac{1}{2}$	$4 \frac{1}{2}$	$4 \frac{1}{2}$	4	$3 \frac{1}{2}$	$3 \frac{1}{2}$	$3 \frac{1}{2}$	3

TAPS

of unusual form of thread and odd dimensions are furnished to order at *special prices*.

IN ORDERING TAPS

mention the exact diameter, form of thread, number of threads to the inch.

If Hand Taps, state whether *Taper*, *Plug* or *Bottoming*

If Stay Bolt Taps, follow instructions on page 40.

If Pulley Taps, give full length.

ALL TAPS

of whatever form, size or pitch, which do not appear in the several price lists, are *special*, and prices will be quoted on application.

When ordering it is safe to mention page on which goods are shown.

For list of Drills to be used with machinists' hand and machine Nut Taps see pages 33 and 34.



TAP DRILLS.



We append the following table, showing the different sizes of Drills that should be used when a full thread is to be tapped in a hole. The sizes given are practically correct.

Diameter of Tap.	No. Threads to Inch.	Drill for V Thread.	Drill for U. S. S. Thread.	Drill for Whitworth Thread.
1-4	16 18 20	5-32 5-32 11-64	 3-16	 3-16
9-32	16 18 20	3-16 13-64 13-64	.. .. ..	.. .. ..
5-16	16 18 ..	7-32 15-64 ..	.. 1-4 ..	.. 15-64 ..
11-32	16 18 ..	1-4 17-64 ..	.. .. ..	.. .. ..
3-8	14 16 18	1-4 9-32 9-32	.. 9-32 ..	.. 9-32 ..
13-32	14 16 18	19-64 21-64 21-64	.. .. ..	.. .. ..
7-16	14 16 ..	21-64 11-32 ..	11-32	11-32
15-32	14 16 ..	53-64 3-8 ..	.. .. ..	.. .. ..
1-2	12 13 14	3-8 25-64 25-64	.. 13-32 ..	3-8
17-32	12 13 14	13-32 27-64 27-64	.. .. ..	.. .. ..
9-16	12 14 ..	7-16 29-64 ..	7-16 .. ..	.. .. ..
19-32	12 14 ..	15-32 31-64 ..	.. .. ..	.. .. ..
5-8	10 11 12	15-32 1-2 1-2	.. 1-2 ..	.. 1-2 ..
21-32	10 11 12	1-2 17-32 17-32	.. .. ..	.. .. ..
11-16	11 12 ..	9-16 9-16 ..	.. .. ..	.. .. ..
23-32	11 12 ..	19-32 19-32 ..	.. .. ..	.. .. ..
3-4	10 11 12	19-32 5-8 5-8	5-8	5-8
25-32	10 11 12	5-8 21-32 21-32	.. .. ..	.. .. ..
13-16	10	21-32 .. ..	.. .. ..	.. .. ..
27-32	10	11-16 .. ..	.. .. ..	.. .. ..
7-8	9 10 ..	45-64 23-32 ..	23-32	23-32
29-32	9 10 ..	47-64 3-4 ..	.. .. ..	.. .. ..
15-16	9	49-64 .. ..	.. .. ..	.. .. ..
31-32	9	51-64 .. ..	.. .. ..	.. .. ..
1	8	43-16	27-32	27-32
1 1-32	8	53-64 .. ..	.. .. ..	.. .. ..
1 1-16	8	55-64 .. ..	.. .. ..	.. .. ..
1 3-32	8	57-64 .. ..	.. .. ..	.. .. ..
1 1-8	7 8 ..	29-32 15-16 ..	15-16	15-16
1 5-32	7 8 ..	15-16 31-32 ..	.. .. ..	.. .. ..
1 3-16	7 8 ..	31-32 1 ..	.. .. ..	.. .. ..
1 7-32	7 8 ..	1 1 1-32 ..	.. .. ..	.. .. ..
1 1-4	7	1 1-32	1 1-16	11-16
1 9-32	7	1 1-16 .. ..	.. .. ..	.. .. ..
1 5-16	7	1 3-32 .. ..	.. .. ..	.. .. ..
1 11-32	7	1 1-8 .. ..	.. .. ..	.. .. ..
1 3-8	6	1 1-8	1 5-32	1 5-32
1 13-32	6	1 5-32 .. ..	.. .. ..	.. .. ..
1 7-16	6	1 5-32 .. ..	.. .. ..	.. .. ..
1 15-32	6	1 3-16 .. ..	.. .. ..	.. .. ..
1 1-2	6	115-64	1 9-32	1 9-32



TWIST DRILLS.



FOR MACHINE SCREW TAPS.

Size of Taps.	Size of Drill, No.	Size of Tap.	Size of Drill, No.
2 x 48	50	13 x 20	17
2 x 56	49	13 x 22	17
2 x 64	48	13 x 24	15
3 x 40	49	14 x 20	15
3 x 48	47	14 x 23	11
3 x 56	45	14 x 24	10
4 x 32	46	15 x 18	12
4 x 36	44	15 x 20	10
4 x 40	43	15 x 22	8
5 x 30	43	15 x 24	7
5 x 32	42	16 x 16	12
5 x 36	41	16 x 18	8
5 x 40	38	16 x 20	7
6 x 30	38	17 x 16	8
6 x 32	37	17 x 18	4
6 x 36	36	17 x 20	3
6 x 40	35	18 x 16	2
7 x 28	34	18 x 18	2
7 x 30	33	18 x 20	1
7 x 32	32	19 x 16	1
8 x 24	31	19 x 18	B
8 x 30	31	19 x 20	C
8 x 32	30	20 x 16	C
9 x 24	30	20 x 18	E
9 x 28	28	20 x 20	F
9 x 30	28	22 x 16	H
9 x 32	26	22 x 18	J
10 x 24	26	24 x 14	L
10 x 30	24	24 x 16	M
10 x 32	24	24 x 18	N
11 x 24	21	26 x 14	O
11 x 28	20	26 x 16	P
11 x 30	19	28 x 14	R
12 x 20	24	28 x 16	S
12 x 22	20	30 x 14	U
12 x 24	19	30 x 16	V
12 x 28	18		

SETS OF MACHINISTS' HAND TAPS.



TAPER.



PLUG.



BOTTOMING.

NO. 131.

Unless advised to the contrary, we fill orders with the V threads.

Please state number of threads and exact size wanted.

	Diameter.	Price Each.	Price per Set.	No. of Threads to inch.
3 Taps to Set—Taper, Plug and Bottoming.	1-4 "	\$0.45	\$1.35	16, 18 and 20
	5-16	.50	1.50	16 and 18
	3-8	.55	1.65	14, 16 and 18
	7-16	.60	1.80	14 and 16
	1-2	.70	2.10	12, 13 and 14
	9-16	.80	2.40	12 and 14
	5-8	.90	2.70	10, 11 and 12
	11-16	1.05	3.15	11 and 12
	3-4	1.20	3.60	10 and 12
	13-16	1.40	4.20	10
	7-8	1.60	4.80	9 and 10
	15-16	1.80	5.40	9
	1	2.00	6.00	8
	1 1-8	2.25	6.75	7 and 8
	1 1-4	2.60	7.80	7
	1 3-8	3.00	9.00	6
	1 1-2	3.50	10.50	6
	1 5-8	4.20	12.60	5 and 5 1-2
	1 3-4	5.00	15.00	5
	1 7-8	5.80	17.40	4 1-2 and 5
	2	6.70	20.10	4 1-2



MACHINE OR NUT TAPS.



No. 131 A.

Unless advised to the contrary, we fill orders with V threads.

Diameter.	Price Each.	Length in Inches.	No. of Threads to Inch.
3-16"	\$ 0.60	4	24
1-4	.60	4 1-2	18, 20, 24
5-16	.70	5 1-8	16, 18
3-8	.80	5 3-4	14, 16, 18
7-16	.90	6 3-8	12, 14, 16
1-2	1.00	7	12, 13, 14
9-16	1.15	7 3-4	10, 11, 12
5-8	1.30	8 1-2	10, 11, 12
11-16	1.45	9 1-4	10, 11, 13
3-4	1.60	9 1-4	10, 11, 13
13-16	1.80	10	10
7-8	2.10	10	9, 10, 12
15-16	2.40	11	9
1	2.80	11	8, 9
1 1-8	3.20	13	7, 8
1 1-4	3.70	13	7
1 3-8	4.20	14	6
1 1-2	4.70	14	6
1 5-8	5.30	14 3-4	5, 5 1-3
1 3-4	6.00	15 1-2	5
1 7-8	6.80	16 1-4	4 1-2, 5
2	7.70	17	4 1-2, 5
2 1-8	9.00	18	4 1-2
2 1-4	10.20	18	4 1-2
2 3-8	11.50	19	4 1-2
2 1-2	12.50	19	4
2 5-8	14.00	19 1-2	4
2 3-4	15.00	19 1-2	4
2 7-8	16.50	21	4
3	18.00	21	3 1-2
3 1-8	19.75	21	3 1-2
3 1-4	21.50	21	3 1-2
3 3-8	23.00	21	3 1-2
3 1-2	25.00	21	3 1-4
3 5-8	27.00	21	3 1-4
3 3-4	29.50	21	3
3 7-8	31.00	21	3
4	33.50	21	3

— We keep in stock the above and 1-32 over size for rough iron.

PIPE TAPS AND REAMERS.



No. 132.

Pipe Taps, with right or left hand threads, and Reamers are made of the following sizes and kept in stock. Pipe hobs, 1-8 to 6 inch diameter, are furnished to order at special prices.

Diameter.	Price Each.	Diameter.	Price Each.	Diameter	Price Each.
1-8 "	\$1.12	1	\$3.12	2 1-2 "	\$10.50
1-4	1.25	1 1-4	3.75	3	15.00
3-8	1.50	1 1-2	4.62	3 1-2	22.00
1-2	1.87	2	6.25	4	33.00
3-4	2.50				

MACHINE SCREW TAPS.



NO. 132 A.

Made of Stubbs' Steel Wire, accurately cut, finely finished and well tempered. Less than six of one size will be charged as single Taps.

Diameter	Wire Gauge Size.	No. of Threads to Inch.	Price Each.	Price per Dozen.
	2	48, 56, 64	\$0.35	\$4.00
"	3	40, 48, 56	.35	4.00
7-64.....	4	32, 36, 40	.35	4.00
	5	30, 32, 36, 40	.35	4.00
9-64.....	6	30, 32, 36, 40	.35	4.00
	7	24, 30, 32	.35	4.00
5-32.....	8	24, 30, 32, 36, 40	.35	4.00
	9	24, 28, 30, 32	.35	4.00
3-16.....	10	20, 22, 24, 30, 32	.35	4.00
	11	22, 24	.35	4.00
7-32.....	12	20, 22, 24	.35	4.00
	13	20, 24	.38	4.40
1-4.....	14	16, 18, 20, 22, 24	.38	4.40
	15	18, 20, 24	.38	4.40
17-64.....	16	16, 18, 20, 22	.38	4.40
9-32.....	18	16, 18, 20	.38	4.40
	19	16, 18, 20	.38	4.40
5-16.....	20	16, 18, 20	.45	5.30
	22	16, 18	.45	5.30
3-8.....	24	14, 16, 18	.45	5.30



BLACKSMITHS' TAPER TAPS.



No. 133.

Diameter	No. of Threads to Inch.	Price Each.	Diameter.	No. of Threads to Inch.	Price Each.
1-4 "	18, 20 and 24	\$0.30	3-4 "	10 and 12	\$0.65
5-16	16, 18 and 20	.30	7-8	9 and 10	.90
3-8	14, 16 and 18	.35	1	8	1.25
7-16	14, 16 and 18	.40	1 1-8	7 and 8	1.50
1-2	12, 14 and 16	.40	1 1-4	7 and 8	1.75
9-16	12 and 14	.50	1 1-2	6	3.00
5-8	10, 11 and 12	.50			

BIT-BRACE TAPS.



No. 133 A.

Diameter	No. of Threads to Inch.	Price Each.
3-16 "	24	\$0.50
1-4	20	.50
5-16	18	.55
3-8	16	.60
7-16	14	.70
1-2	12 and 13	.80

All orders for Bit Brace Taps will be filled with standard sizes and V threads unless differently specified on order.

PULLEY TAPS.



No. 133 B.

Diameter.	No. of Threads to inch.	PRICE EACH.									
		6 Inch.	8 Inch.	10 Inch.	12 Inch.	14 Inch.	16 Inch.	18 Inch.	20 Inch.	22 Inch.	24 Inch.
3-8 "	14, 16	\$0.80	\$0.90	\$1.10	\$1.30	\$1.40	\$1.60	\$1.80			
7-16	14, 16	.90	1.00	1.20	1.40	1.50	1.70	1.90			
1-2	12, 13	1.00	1.30	1.40	1.50	1.60	1.80	2.00	\$2.20		
9-16	12, 13	1.10	1.35	1.45	1.55	1.70	1.85	2.10	2.30	\$2.50	
5-8	10, 11	1.20	1.40	1.50	1.60	1.75	1.90	2.20	2.40	2.60	\$2.80
11-16	10, 11		1.50	1.55	1.70	2.00	2.19	2.30	2.50	2.70	2.90
3-4	10			1.60	1.80	2.10	2.30	2.50	2.70	2.90	3.10
13-16	10			1.80	2.00	2.30	2.50	2.70	2.90	3.10	3.30
7-8	9, 10			2.10	2.30	2.50	2.70	2.90	3.10	3.30	3.50
15-16	9, 10			2.40	2.55	2.70	2.90	3.10	3.30	3.50	3.70
1	8			2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20

These will be sent *exact* sizes, V form of thread. Other sizes and threads furnished at special prices. U. S. S. form of thread furnished at same prices.

TAPPER TAPS.



No. 133 C.

Diameter	Number of Threads to inch.	Length of Thread in Inches.	PRICE EACH. WHOLE LENGTH.		
			11 Inches.	12 Inches.	14 Inches.
1-4 "	18 and 20	1 1-2	\$0.70	\$0.75	\$0.80
5-16	16 and 18	1 3-4	.80	.85	.90
3-8	14 and 16	2	.90	.95	1.00
7-16	12, 14 and 16	2	1.00	1.05	1.15
1-2	12, 13 and 14	2 1-4	1.12	1.15	1.25
9-16	12 and 14	2 1-4	1.30	1.35	1.45
5-8	10, 11 and 12	2 1-2	1.45	1.50	1.65
11-16	11 and 12	2 1-2	1.62	1.70	1.80
3-4	10	2 1-2	1.80	1.85	2.00
13-16	10	2 1-2	2.05	2.10	2.25
7-8	9	2 1-2	2.35	2.45	2.60
15-16	9	2 1-2	2.70	2.75	3.00
1	8	2 1-2	3.15	3.20	3.50



STAY BOLT TAPS. THREAD



REAMER

TAPER

STRAIGHT

SHANK



No. 133 D.

Diameter.	PRICE EACH.											
	16 in.	18 in.	21 in.	24 in.	27 in.	30 in.	33 in.	36 in.	39 in.	42 in.	48 in.	54 in.
3-4, 13-16 7-8"	\$5.60	\$7.20	\$8.00	\$8.80	\$10.90	\$13.00	\$14.00	\$15.00	\$16.50	\$18.00	\$19.00	\$20.00
15-16, 1	6.60	8.50	9.35	10.20	12.25	14.25	15.40	16.50	18.00	19.75	21.00	22.25
11-16, 1 1-8	7.60	9.50	10.35	11.20	13.25	15.25	16.40	17.50	20.00	22.00	23.50	25.00
13-16, 1 1-4	9.00	10.50	12.00	12.75	14.75	16.50	18.00	19.50	22.00	24.00	25.50	27.00
15-16, 1 3-8	11.00	12.50	14.00	15.00	17.00	18.50	20.00	21.50	24.00	26.00	28.00	30.00
17-16, 1 1-2	13.00	14.50	16.00	17.00	19.00	20.00	22.00	23.50	26.00	28.00	30.00	32.00

All orders for these Taps should give exact diameter and No. of threads per inch, also length of parts A, B, C, D and E. Unless otherwise ordered, we shall send these Taps with twelve threads to the inch.
We do not keep these Taps in stock. Made only on orders.

MASTER TAPS FOR CUTTING SOLID DIES.



No. 133 E.

DIAMETER.	PRICE EACH.	DIAMETER.	PRICE EACH.	DIAMETER.	PRICE EACH.
1-4 "	\$0.75	5-8 "	\$1.60	1 3-8"	\$5.25
5-16	.85	3-4	2.00	1 1-2	5.90
3-8	1.00	7-8	2.60	1 5-8	6.60
7-16	1.15	1	3.50	1 3-4	7.50
1-2	1.25	1 1-8	4.00	1 7-8	8.50
9-16	1.45	1 1-4	4.60	2	9.60

Solid Dies can be cut with this Tap without any leading tap, but it is better to remove three-fourths of the stock with a leading tap, as it will insure a better thread. Open Dies can also be cut if desired.

FOR CUTTING OPEN DIES.



No. 133 F.

DIAMETER.	PRICE EACH.	DIAMETER.	PRICE EACH.	DIAMETER.	PRICE EACH.
1-4 "	\$0.60	5-8 "	\$1.30	1 3-8 "	\$4.20
5-16	.70	3-4	1.60	1 1-2	4.70
3-8	.80	7-8	2.10	1 5-8	5.30
7-16	.90	1	2.80	1 3-4	6.00
1-2	1.00	1 1-8	3.20	1 7-8	6.80
9-16	1.15	1 1-4	3.70	2	7.70

This Tap is intended for cutting both Open and Screw Plate Dies, but Solid Dies may be cut if a leading tap of a diameter large enough to let the point of Tap enter is passed through the Die first, as the tap is chased slightly smaller on point so it will enter after smaller tap.

Be particular in ordering to state for which they are wanted, as they are made larger for Screw Plate Dies.



TAP AND REAMER WRENCHES.



No. 134.

These Wrenches are well finished in every respect, have Steel Dies, and are strong and durable
PRICES.

Size No. 1.	Length 7 inches, for Taps 1-16 to 1-4 inch	..\$1.50
Size No. 2.	Length 10 1-2 inches, for Taps 3-16 to 1-2 inch	2 00
Size No. 3.	Length 15 inches, for Taps 1-4 to 3-4 inch	2 50
Size No. 4.	Length 20 inches, for Taps 3-8 to 1 inch	3 50
Size No. 5.	Length 42 inches, for Taps 3-4 to 1 1-2 inch	7 00

COUNTERSINKS.

With Bit Stock 1-2 or 41-64 Round Shanks.



No. 135.

Price Each\$0.50

CENTER DRILL CHUCK.

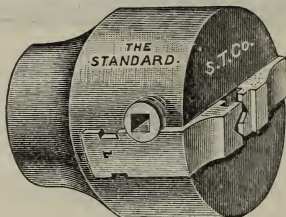


No. 136.

This Chuck is made of steel, with much care, has hardened jaws, and will prove a convenient tool. It can be furnished to hold any one of the following size drills:

1-8, 5-32, 3-16, 7-32, 1-4, 9-32, 5-16, 11-32, 3-8, 13-32, 7-16, 15-32.

Price, each Chuck.....\$0.75

"STANDARD" DRILL CHUCK.**No. 138.**

The above Chuck will hold Drills from 0 to 3-4 inch according to sizes listed below; have hole entirely through them, and are made to fit a Taper Plug, or can easily be threaded to fit Lathe Spindle; the Jaws and Screw are made of Cast Steel carefully tempered.

We guarantee that this Chuck will not injure the Drill in any way.

No.	Price Each.	Diameter.	Length in inches.	Weight, lbs	Capacity.
0	\$6.00	1 3-4"	2 1-2	1 1-4	0 to 1-4
1	7.00	2 1-8	2 3-4	2 1-4	0 to 1-2
2	8.00	2 7-8	3 1-4	4 1-2	0 to 3-4

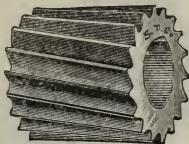
PRICE LIST OF EXTRA PARTS FOR STANDARD CHUCKS.

	No. 0.	No. 1	No. 2.
Jaws	\$1.75	\$2.00	\$2.25
Screws	.90	1.00	1.10

ARBORS FOR "STANDARD" CHUCKS.

Arbor for No. 1 Chucks with 1-3/4 inch Shank	\$0.50
" " 1 " " 3-4 " "	.75
" " 2 " " 3-4 " "	1.00
" " 3 " " Taper Shank	1.20

MILLING CUTTERS.



NO. 139.

Width of Face.	Diameter	Price.	Diameter	Price.	Diameter	Price.	Diameter	Price.	Diameter	Price
1-4 "	2 1-2"	\$1.40	2 3-4"	\$1.60	3"	\$1.95	3 1-2"	\$2.50	4 "	\$3.20
5-16	"	1.50	"	1.65	"	2.00	"	2.70	"	3.40
3-8	"	1.60	"	1.70	"	2.10	"	2.90	"	3.60
7-16	"	1.70	"	1.80	"	2.25	"	3.10	"	3.80
1-2	"	1.80	"	1.90	"	2.40	"	3.15	"	3.90
5-8	"	2.00	"	2.10	"	2.70	"	3.45	"	4.30
3-4	"	2.20	"	2.30	"	3.00	"	3.85	"	4.70
7-8	"	2.40	"	2.50	"	3.30	"	4.35	"	5.15
1	"	2.60	"	2.80	"	3.60	"	4.75	"	5.65
1 1-4	"	2.90	"	3.00	"	4.00	"	5.15	"	6.25
1 1-2	"	3.10	"	3.90	"	4.30	"	5.60	"	6.65
1 3-4	"	3.40	"	4.00	"	4.50	"	6.00	"	7.25
2	"	3.70	"	4.25	"	4.70	"	6.40	"	7.45
2 1-2	"	4.10	"	4.60	"	5.20	"	6.90	"	8.40
3	"	4.50	"	5.00	"	5.40	"	7.40	"	9.00
3 1-2	"	5.00	"	5.50	"	5.90	"	8.15	"	10.00
4	"	5.50	"	6.00	"	6.40	"	9.15	"	11.00

All of the above cutters have one inch holes and have half-round keyway to fit No. 25 Stubs' wire. All over 3-4 face are cut with spiral teeth.

ANGULAR MILLS.



NO. 140.

Made right or left hand, and to any angle as desired.

Regular size 2 1-2 in. diameter, 1-2 in. thick, with holes 7-8 or 1 inch. Price each\$2.75

HEADING MILLS.



NO. 141.

Having teeth on sides and edges, are suitable for milling the sides of nuts, bolt heads and similar work.

Diameter.	Price Each.	Face.	Hole.	Diameter.	Price Each.	Face.	Hole.
1 1/2"	\$1.75	3-16"	3-8"	2 3/4"	\$ 2.30	3-8"	7-8"
2	2.00	3-16	1-2	2 3/4	2.35	1-2	7-8
2	2.05	1-4	1-2	3	2.40	1-4	1
2	2.10	3-8	1-2	3	2.50	3-8	1
2	2.00	3-10	5-8	3	2.80	1-2	1
2	2.05	1-4	5-8	3 1-2	3.50	9-16	1
2	2.10	3-8	5-8	3 1-2	3.75	5-8	1
2 1-4	2.15	5-10	5-8	4	4.70	5-8	1
2 1-2	2.15	1-4	3-4	4	5.00	3-4	1
2 1-2	2.20	3-8	3-4	5	6.00	3-4	1
2 1-2	2.25	1-2	3-4	5	6.50	7-8	1
2 1-2	2.15	1-4	7-8	6	8.50	15-16	1 1-4
2 1-2	2.20	3-8	7-8	6	9.50	1	1
2 1-2	2.25	1-2	7-8	7	17.00	1 1-8	1 1-4
2 3-4	2.30	1-4	7-8	8	23.00	1 3-8	1 1-4

Side Milling Cutters larger than 8 inch diameter furnished with inserted teeth if so desired.
Keep the corners of the teeth full and sharp.



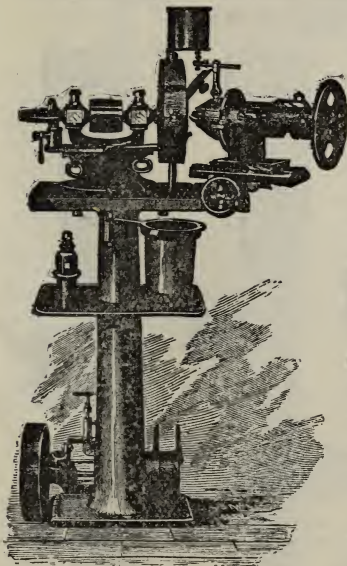
ROUND AND
CONCAVE FACE
MILLING CUTTERS.



NO. 142.

Ground to a true Arc by tools adapted to the purpose

Width of Face.	Diameter of Cutter	Size of Hole	Price Each.
1-4"	2 1-2"	1"	\$2.50
3-8	2 1-2	1	2.75
1-2	2 1-2	1	3.00
3-4	2 1-2	1	3.75

"STANDARD" PATENT TWIST DRILL GRINDING MACHINE.

This machine is adapted for grinding to a proper angle and with a suitable clearance the *cutting lips* of twist drills.

Please note the following facts, viz.: This machine holds in the same chuck drills from 1-8 to 1 9-32 inch, and *grinds both sides without removing drill from the chuck*, thereby reducing the time of grinding to less than one-half that of any other machine in the market.

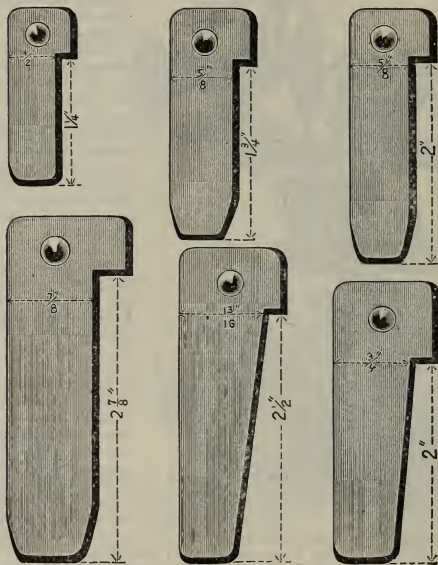
It grinds both sides *exactly* alike, and leaves the point a perfect center. More or less clearance can be given, as desired. Nothing is left to the judgment of the workman.

All wearing parts are made of hardened steel, carefully tempered. All parts of these machines are made interchangeable, so that any part of any machine can be duplicated with certainty of fit.

The Emery Wheels are made specially, and run with water to prevent drawing of temper. Size of wheel, 9 inch diameter and 1 1-2 inch face. The grinding is done on side of wheel, which can be kept properly dressed by using the tool-holder and diamond in place of grinding attachment in taper socket on upper slide and running the same across the wheel by means of small hand wheel and feed screw. A wheel can be run on left end of spindle for ordinary tool grinding. Speed of emery wheel, 1,600 revolutions per minute.

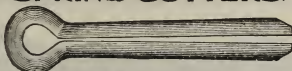
Price complete, with column and countershaft, \$100.00.

FLAT RIVETED KEYS.



Special prices quoted on application. Always give measurements as illustrated above and *thickness* of metal required. We manufacture all sizes and styles. Send a sample and ask for prices.

SPRING COTTERS.



PRICE PER THOUSAND.

WIRE GAUGE	1	4	5	6	7	8	9	10	11	12	13
DIAMETER.	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{2}$	$\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{3}{4}$	$3\frac{1}{4}$
Length $\frac{1}{4}$						4.25	4.00	3.75	3.50	3.25	3.00
Length $\frac{1}{2}$						4.50	4.25	4.00	3.75	3.50	3.25
Length $\frac{3}{4}$					5.50	5.00	4.75	4.50	4.25	4.00	3.75
Length $1\frac{1}{4}$				6.00	5.50	5.00	4.75	4.50	4.25	4.00	3.75
Length 1			13.50	10.00	8.00	6.50	5.50	5.00	4.75	4.50	4.25
Length $1\frac{1}{4}$			15.00	11.00	9.00	7.50	7.00	6.25	5.50	5.00	4.75
Length $1\frac{3}{4}$			18.75	16.50	12.00	10.00	8.50	7.75	7.25	6.25	5.75
Length $2\frac{1}{4}$			20.50	18.00	13.25	11.25	9.50	8.75	8.25	7.00	6.75
Length 2		35.00	29.00	22.25	19.50	14.50	12.25	10.50	9.50	9.00	7.75
Length $2\frac{1}{4}$		38.50	31.50	24.00	21.00	16.00	13.50	11.75	10.50	10.00	8.50
Length $2\frac{3}{4}$		42.00	34.00	25.75	22.50	17.50	14.75	12.75	11.50	11.00	9.50
Length 2 $\frac{3}{4}$			27.00	24.50	18.75	16.00	14.00	12.50			
Length 3	75.00	49.00	39.00	28.75	26.50	20.00	17.25	15.25	13.50		
Length $3\frac{1}{4}$		56.00	44.00	32.50	30.00	22.75					
Length 4	91.00	63.00	49.00	36.50	33.00	25.50					
Length 5	107.00	77.00	59.00								
Length 6	123.00	91.00	69.00								

Our Spring Cotten are made by special machinery, are highly finished, extra well pointed and shaped. We carefully examine all stock and guarantee all Cotten perfect. Liberal Discounts named on Application.

FLAT SPRING KEYS.

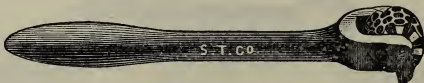


PRICE PER THOUSAND.

LENGTH.	1 $\frac{1}{4}$	1 $\frac{1}{2}$	1 $\frac{3}{4}$	2	2 $\frac{1}{4}$	2 $\frac{3}{4}$	2 $\frac{3}{4}$	3	3 $\frac{1}{4}$
WIDTH.	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	
$\frac{1}{8}$	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	
$\frac{1}{4}$			15.00	16.00	17.50	19.00	20.50	22.00	25.00
$\frac{3}{8}$				19.50	21.00	22.50	23.75	25.50	28.50

Perfectly uniform in size, and pointed. We make any length and width desired. Write for Special Discounts.

"STANDARD" PATENT EMERY WHEEL DRESSER



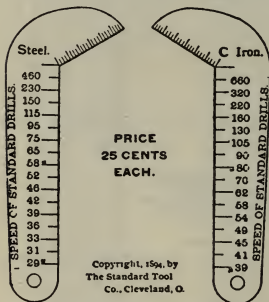
Is the best tool made for turning and sharpening solid or covered Emery Wheels. It will true the hardest wheels or grindstones. The advantage of this tool over others is, that the cutter always presents *the same cutting surface until it is used up to the hub*. One cutter will last as long as three of any other make. The pin is grooved and can be oiled from both ends. The handle is strong and durable. We can also supply our style of cutter to fit any handle on the market.

PRICE.

Tool, complete with extra cutter, boxed, each, \$2.00. Extra cutter, 60 cents.

NEW TWIST DRILL GRINDING GAUGE AND CHART.

NOTICE.



Grinding Twist Drills accurately is generally admitted to be a difficult operation, and the proper speed or number of revolutions a drill should run is of great importance in getting the best and most economical results from the use of Twist Drills.

Our Twist Drill Grinding Gauge and Chart will enable an operator to grind Twist Drills accurately, thereby making considerable saving. Every man and boy who uses and grinds Twist Drills should have one.

The cut shows opposite sides of our new Twist Drill Grinding Gauge. It is made of steel 1-16 inch thick. The angle of the gauge is ground to exactly 59 degrees, which is the proper angle for the cutting edges of a Twist Drill. The angle on the gauge is graduated so that the cutting edges of the drill can be measured and ground exactly the same length. The clearance of the drill can also be determined by holding drill on the gauge, and revolving it toward you.

The straight edge of the gauge is a two-inch scale graduated by eighths of an inch; opposite each eighth mark is a

number, which is the best speed to run a drill of corresponding size or diameter. One side of the gauge is marked for boring steel and the other side for cast iron.

In using the gauge hold it in the left hand and place the drill in the angle of the gauge, with the cutting edges of the drill facing you. Grind the drill so that both edges are exactly the same length and fit the angle of the gauge. Also see that the heel of the lip of the drill is lower than the cutting edge, which will give the drill clearance and allow the edges to cut. Always keep Twist Drills Sharp, run them at the Proper Speed as given on chart. If you want to force a drill to do work quickly, run at the right speed but **Increase the Feed**.

THE STANDARD TOOL CO.,

SOLE MANUFACTURERS OF

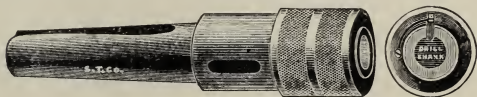


GROOVED SHANK TWIST DRILLS

TO FIT

ANDREWS' PATENT CHUCKS.

We can supply promptly Taper Shank or Straight Shank Drills and Reamers fitted with grooves to fit all styles of Andrews' Patent Chucks.



As shown in above illustration—a *key* held by a spring is let into the body of the chuck; this key fits into the groove in the shank of the tool, and is securely locked by screwing up the collar on the chuck; the groove extends the *entire length of the shank*, the tool can be put in the chuck and turned till the key falls in the groove. The collar of the chuck does *not have to be set at any particular point*. By using these chucks in place of the regular sockets, the following advantages are secured, viz.:

All tools are held perfectly true and rigid.

Tangs will not be broken off, and old drills with broken tangs can be used up.

Tools for under cutting can be used without danger of their pulling out of the chucks.

We will put groove in old tools at slight cost.

(OVER.)

We can supply these chucks for holding *straight* shank *drills* with uniform shanks. They are *simpler*, *cheaper* and more *durable* than many of the drill chucks on the market. There is no danger of marring the shanks of drills by using the Andrews' Chucks.

PRICE LIST

CHUCKS FOR TAPER SHANKS.

No. 1.	Chuck, Taper Socket, takes drills $\frac{1}{4}$ inch to $\frac{1\frac{9}{32}}$ inch	\$ 5 00
No. 2.	Chuck, Taper Socket, takes drills $\frac{3\frac{9}{64}}$ inch to $\frac{2\frac{9}{32}}$ inch.....	6 50
No. 3.	Chuck, Taper Socket, takes drills $\frac{5\frac{9}{64}}$ inch to $1\frac{1}{4}$ inch.....	9 00
No. 4.	Chuck, Taper Socket, takes drills $1\frac{9}{32}$ inch to 2 inch.....	12 00
No. 5.	Chuck, Taper Socket, takes drills $2\frac{1}{32}$ inch to 3 inch.....	15 00

CHUCKS FOR STRAIGHT SHANKS.

No. 1.	Chuck, $\frac{1}{2}$ inch Straight Socket, takes drills $\frac{1}{4}$ inch to $\frac{1\frac{19}{32}}$ inch.....	\$ 4 50
No. 2.	Chuck, $\frac{5}{8}$ inch Straight Socket, takes drills $\frac{3\frac{9}{64}}$ inch to $\frac{2\frac{9}{32}}$ inch	5 50
No. 3.	Chuck, $\frac{7}{8}$ inch Straight Socket, takes drills $\frac{5\frac{9}{64}}$ inch to $1\frac{1}{4}$ inch.....	7 50
No. 4.	Chuck, $1\frac{1}{8}$ inch Straight Socket, takes drills $1\frac{9}{32}$ inch to 2 inch.....	10 00
No. 5.	Chuck, $1\frac{1}{2}$ inch Straight Socket, takes drills $2\frac{1}{32}$ inch to $3\frac{1}{2}$ inch	12 50

Above prices are for unfinished Shanks; add for finished, 50 cents for Nos. 1 or 2, and 75 cents for the large sizes.

WE solicit orders for Special Tools. The following is a partial list of tools made.

Taper and Straight Shank Drills of Special
lengths with grooves for continuous oil feed,
Combined Pipe Tap and Drill,
Boring Bars and Hollow Drills for Extra long holes,
Flat Drills, Three and Four groove Drills,
Counterbores and Countersinks of all Sizes,
End, Hollow and Box Mills
Irregular shaped Milling Cutters,
Taper Roughing and Finishing Reamers,
Hardened and Ground Punches and Dies,
Spring Punches and Routing Bits,
Spiral Collars for the manufacture
of Woven Wire Mattresses.

MEDAL AND DIPLOMA

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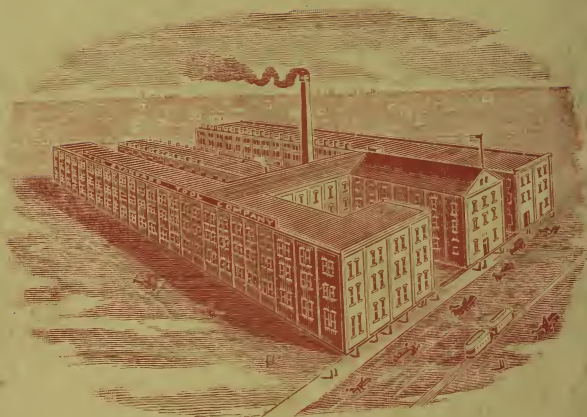
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CHUCKS and
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